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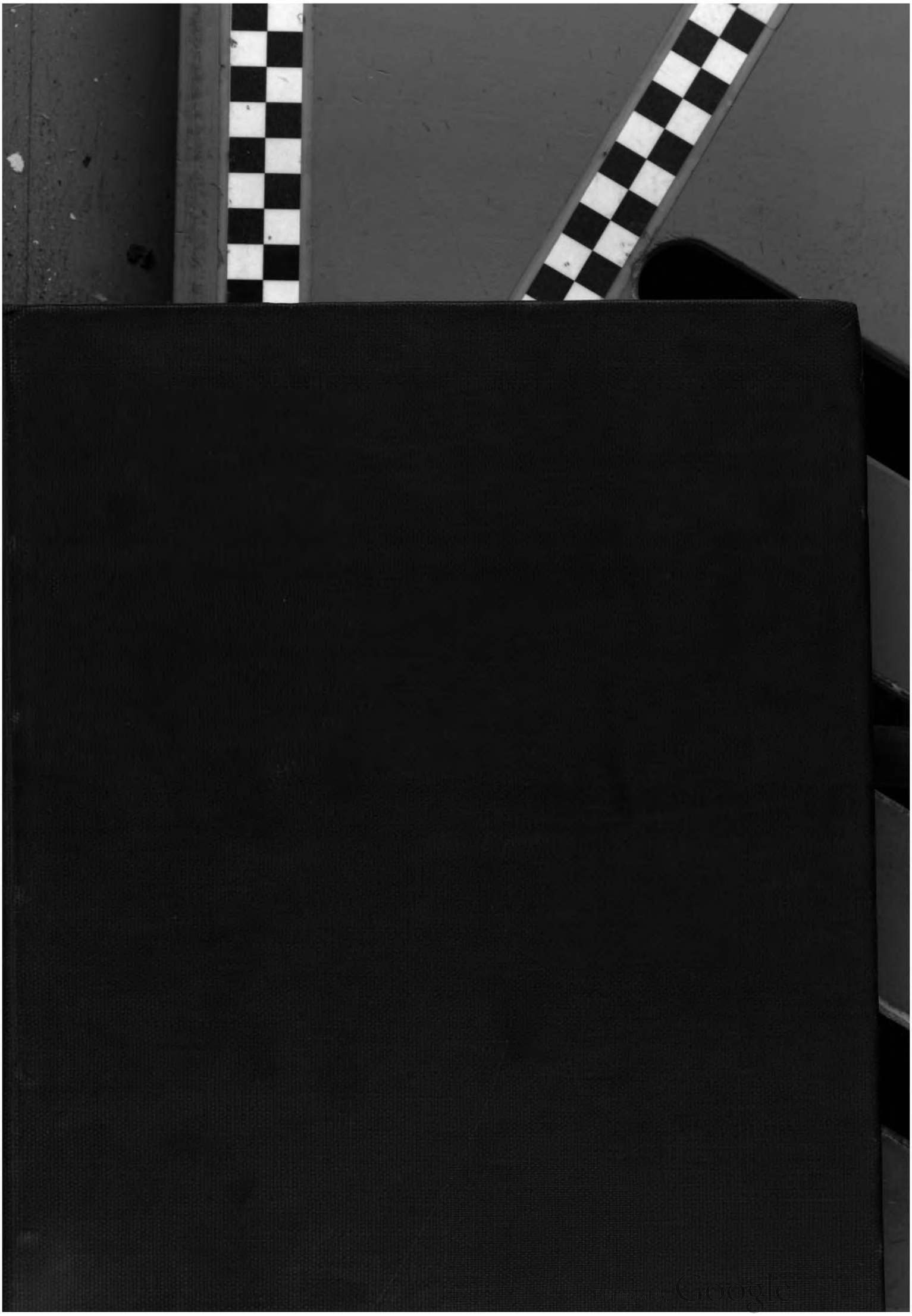

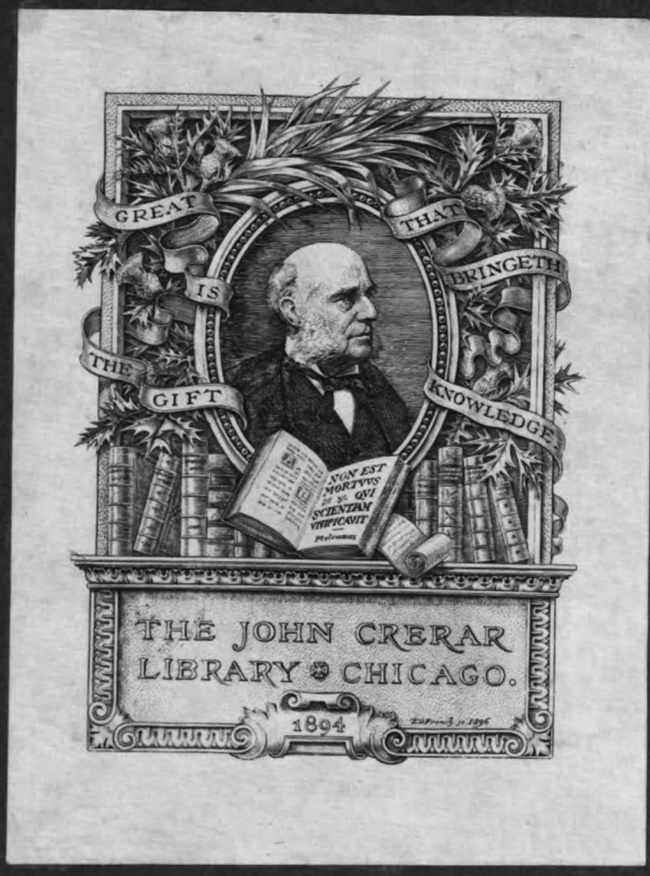
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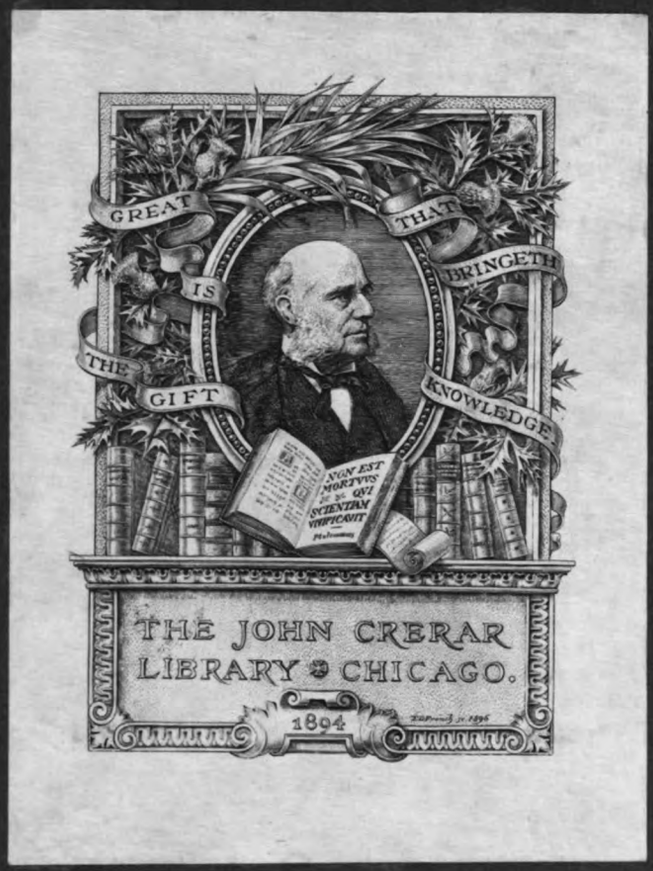

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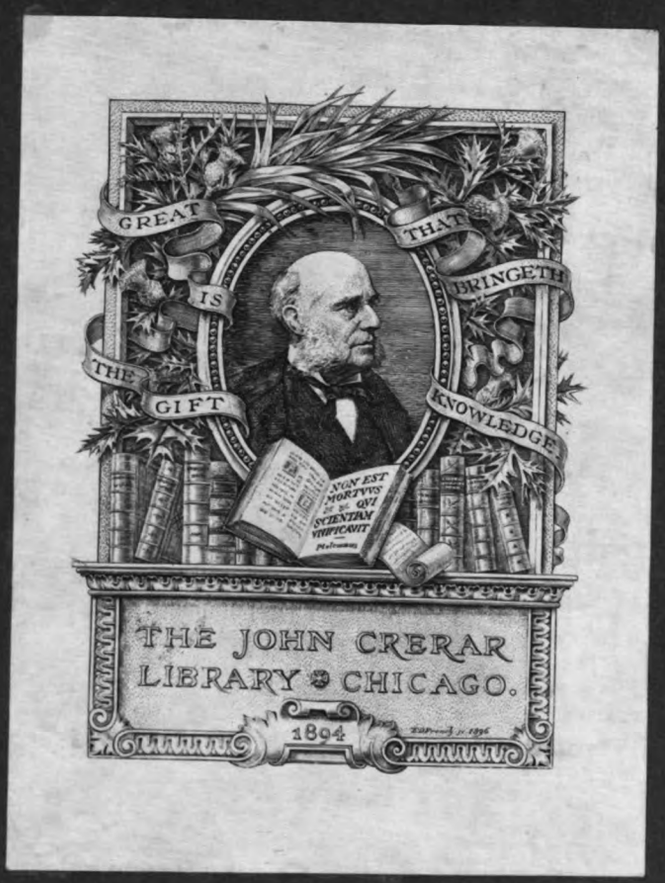
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POWER WAGON

Number 188 CHICAGO, JULY, 1920 Price 50 Cents

WHEREVER operating conditions are unusually difficult, Kelly Caterpillar tires are stepping in and solving the problem. Hauling logs over corduroy roads, pulling oil trucks through axle-deep mud or sand—these are some of the conditions under which Kelly Caterpillars have proved themselves. Owners of large fleets in the oil fields, for instance, tell us they could not operate trucks at all without Caterpillars.

KELLY-SPRINGFIELD TIRE CO.
GENERAL SALES DEPARTMENT
1710 Broadway New York, N. Y.

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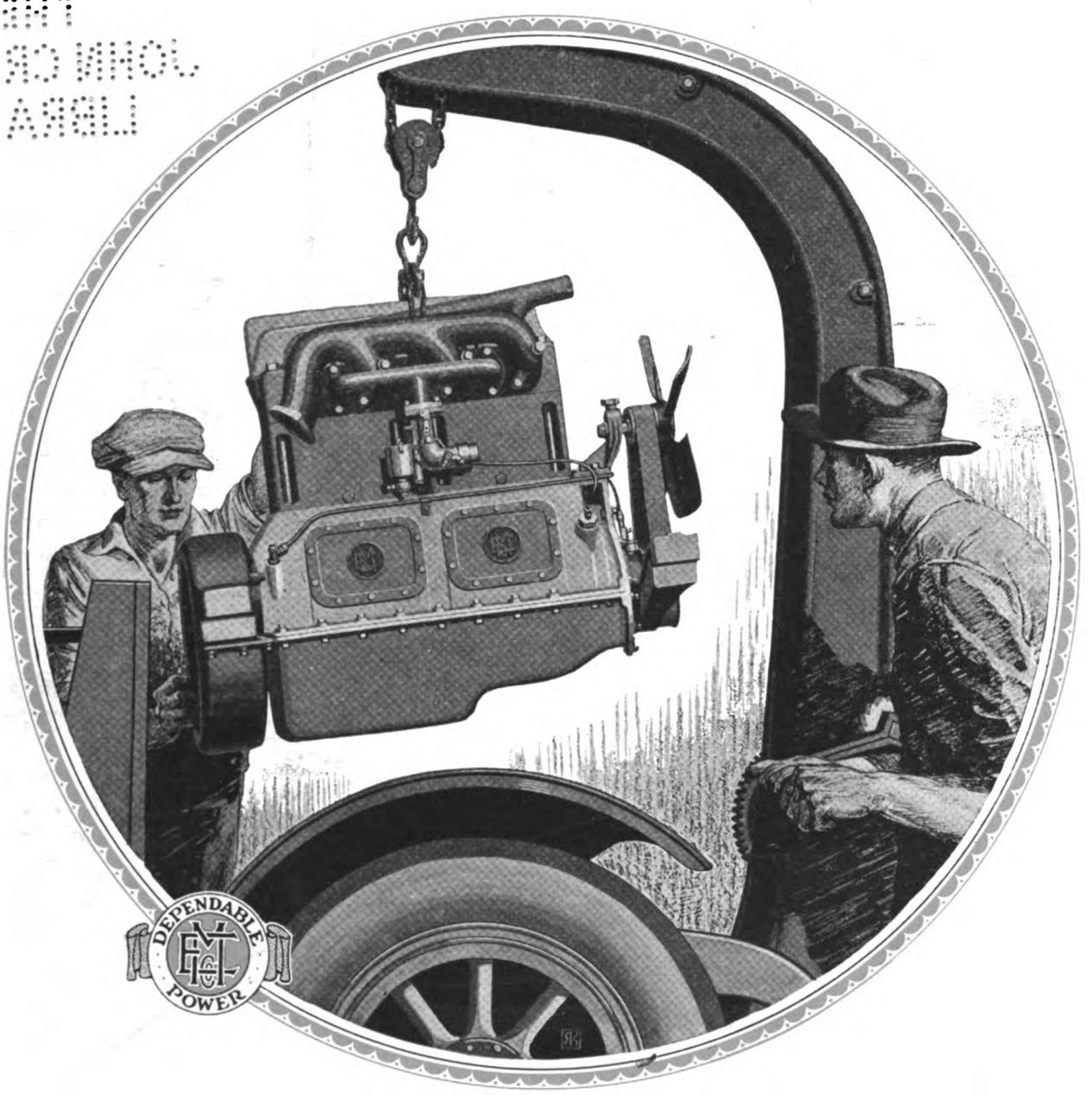

Any Manufacturer Can Drop This Engine Into His Truck Chassis and Meet His Real Competition

This engine installed in the chassis of your truck will enable you to meet successfully your only *real* competition—ANIMAL POWER.

The average truck prospect has the greatest confidence in animal power. He compares the performance of any truck with horse or mule power.

You have got to show this prospect two things—that your truck will work as economically as animal power—and that he will have no more "off days" with your product than he will with horses or mules.

We believe that the Midwest truck engine is the *first* engine capable of sustained and constant efficiency at both high and low speed, and that it will give to your product as dependable and unfaltering service as the prospect is used to getting from animal power.

We have worked out the installation details of this engine so carefully that it can be insta ed in your truck without any radical changes in your chassis design.

Many well established concerns will soon be delivering trucks equipped with Midwest Heavy Duty Engines. We still have some available open capacity with which to serve reliable concerns.

May our engineering sales force consult with you? When? Address Sales Division – 16.

MIDWEST ENGINE COMPANY - - INDIANAPOLIS, U. S. A.

MIDWEST

TRUCK *and* TRACTOR ENGINE

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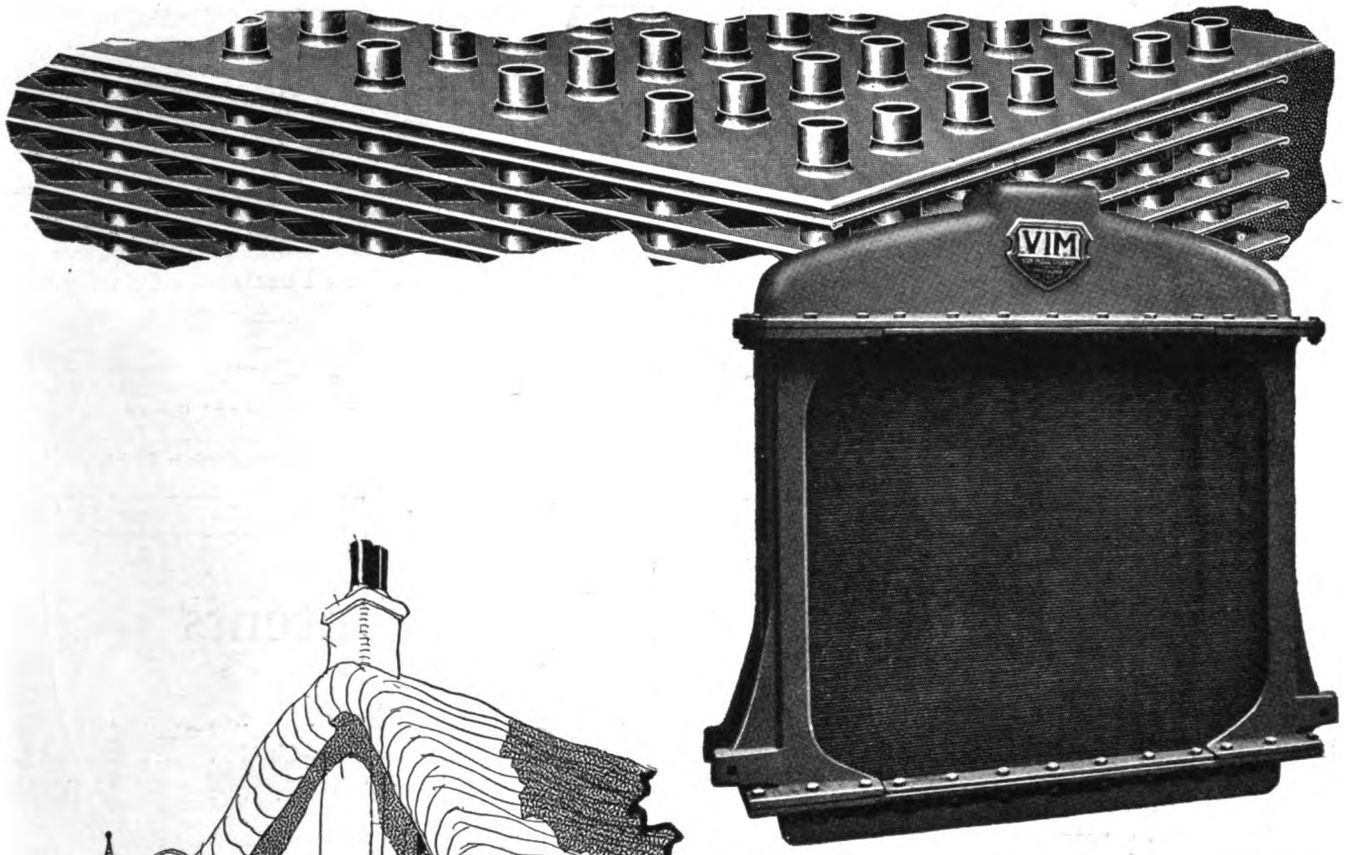

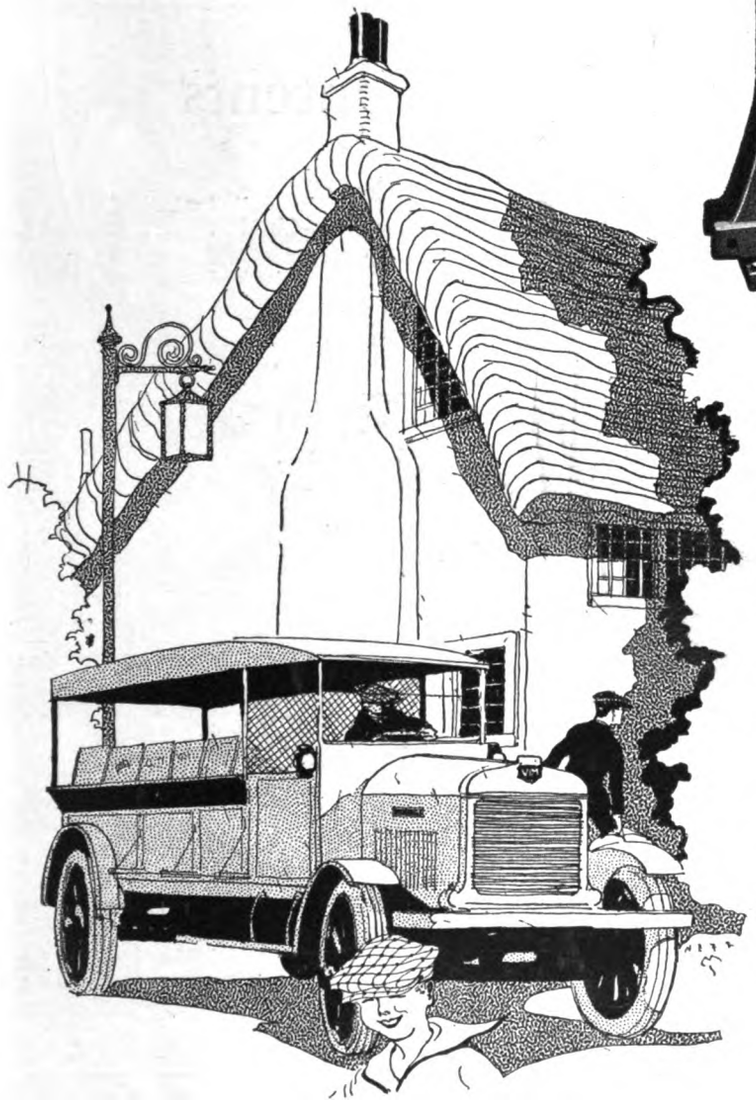

This company not only favors the continuous fin tubular radiator for trucks and tractors, but is anxious to lay before automotive engineers the reasons for assuming such a positive stand.

This type of core is strong, yet light in weight. The perfect network of the fins and tubes offers tremendous resistance to blows. Air freely circulates through it, there can be no stagnation of air. In event of accident repairs are easily and quickly made.

Both tubular and cellular radiators are made in the McCord plant, therefore recommending this one type for trucks and tractors is only for the sake of maximum cooling results.

We have in stock, for immediate shipment in limited quantities without pattern expense, standard designs of radiators to meet almost any requirement for trucks and tractors.

Service Stations: New York, 1926 Broadway
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McCord Manufacturing Company, Inc.
Detroit, Michigan

Manufacturers of McCord Gaskets and McCord Force-Feed Lubricators

McCord RADIATORS

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PRECISION BALL BEARINGS

(PATENTED)

IT is easy to claim precision. It is another matter to maintain it, in quantity production. That "NORMA" Precision is a fact is demonstrated by the daily performance of hundreds of thousands of high-grade magnetos and lighting generators in which "NORMA" Bearings are standard. It is this sustained precision which explains "NORMA" silence and serviceability at high speeds.

See that your electrical apparatus is "NORMA" equipped.

THE NORMA COMPANY OF AMERICA

Anable Avenue
Long Island City
New York

Ball, Roller, Thrust and Combination Bearings

POWER WAGON

An exponent of the most enlightened thought and practice of the motor truck industry.

Published monthly by

THE POWER WAGON PUBLISHING COMPANY

544 Lake Shore Drive, Chicago, U. S. A.

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VOL. XXIV. JULY, 1920. No. 188.

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THE POWER WAGON PUBLISHING COMPANY

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A ROSS-steered truck is certain to be the choice of the buyer who knows and appreciates the superior quality of Ross Steering Gears in design, materials and workmanship.

He realizes that the motor truck manufacturer who has been willing to pay a little more to build into his truck the safety, reliability and easy steering that Ross Steering Gears guarantee, has doubtless been just as particular about every other part of the equipment and construction of his truck.

One hundred and seventy-one different makes of motor trucks—representing nearly two-thirds of the entire industry—carry Ross Steering Gears as standard equipment.

Write for catalog and other information desired

ROSS GEAR & TOOL COMPANY
780 HEATH STREET, LAFAYETTE, INDIANA

Manufacturers of the Steering Gears That Predominate on Motor Trucks

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Drivers Help Clydesdale Dealers to Sell Clydesdale Trucks

IN THE final analysis, it is usually the driver who passes judgment on a motor truck. If a truck has a good reputation among drivers, you can be certain it is a good truck.

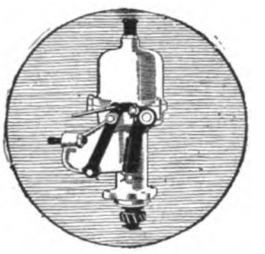
Drivers are boosters for Clydesdale trucks because the Clydesdale is strong on the points which the driver requires. The Clydesdale gives continuous service with minimum repair. It has the sturdy power and strength to come through in a pinch. It has a comfortable all-weather cab and most of all—it's an easy truck to drive. The Clydesdale is the only truck equipped with "The Driver Under The Hood", the automatic controller which relieves the driver of half the effort of operating his truck.

Whenever the opportunity presents itself, Clydesdale drivers praise their trucks highly. The reputation thus formed makes the dealer's part in the sale of a Clydesdale extremely easy.

One to Five Tons Net Load

THE CLYDESDALE MOTOR TRUCK CO.
CLYDE, OHIO

No Other Truck Has It



"The Driver under the Hood"

The Clydesdale Automatic Controller

CLYDESDALE

A World Proven Motor Truck

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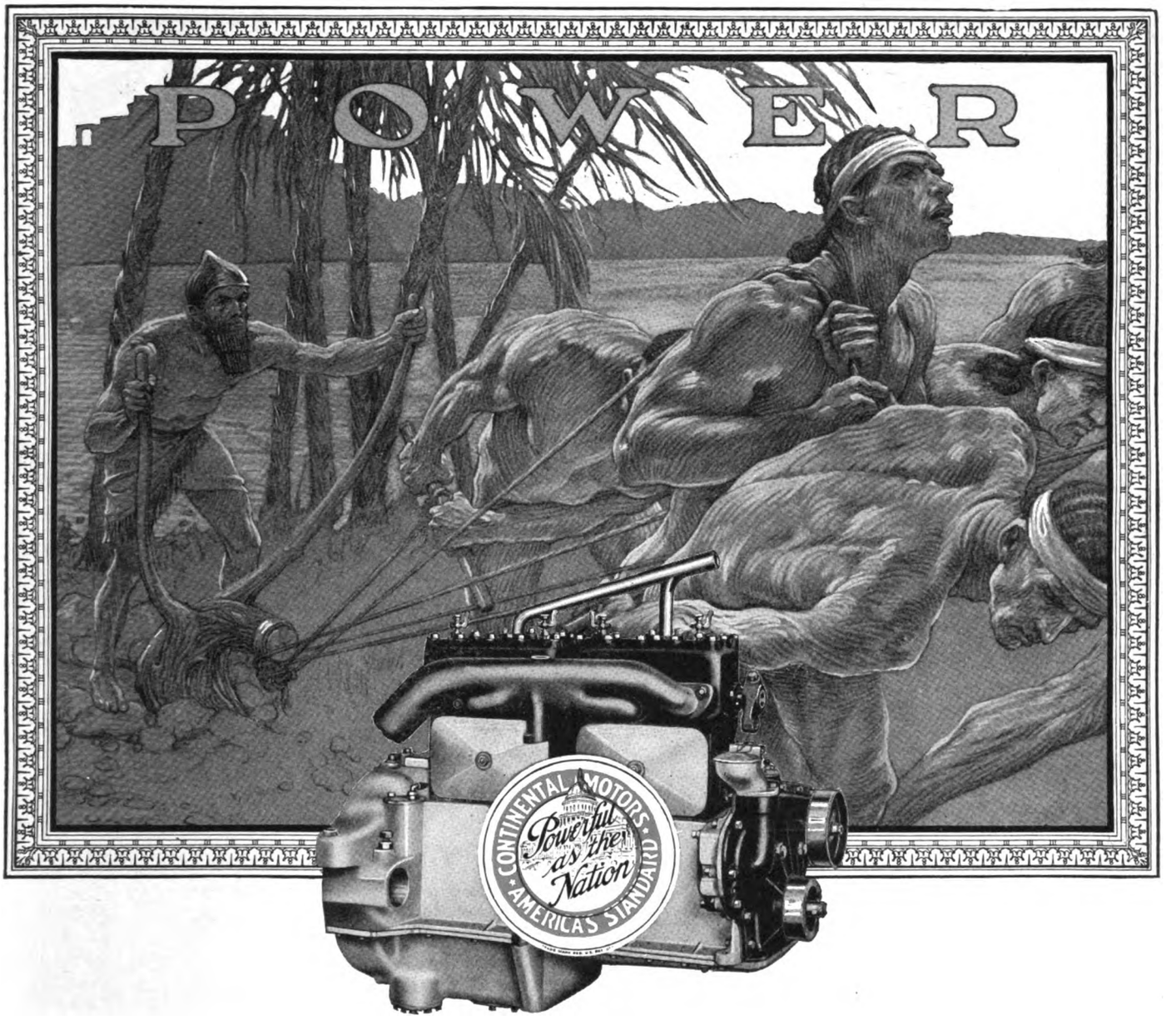

There is something more than men, material and equipment where Red Seal Motors are produced. There's a very apparent appreciation of a motor manufacturer's obligation to the man who builds a car or truck or tractor, and to the man who drives one. Just as primitive man had the WILL to make his crude leathern thong and wooden plough perform to meet his needs — so has the Continental organization the WILL to build motors of constantly increasing efficiency to meet the needs of the millions who for years have looked for high standards of quality under the Continental Red Seal.

CONTINENTAL MOTORS CORPORATION

Offices: Detroit, U. S. A. **Factories: Detroit and Muskegon**

Largest Exclusive Motor Manufacturers in the World

Continental Motors

STANDARD POWER FOR TRUCKS, AUTOMOBILES AND TRACTORS

Please mention "Power Wagon" when writing to advertisers.

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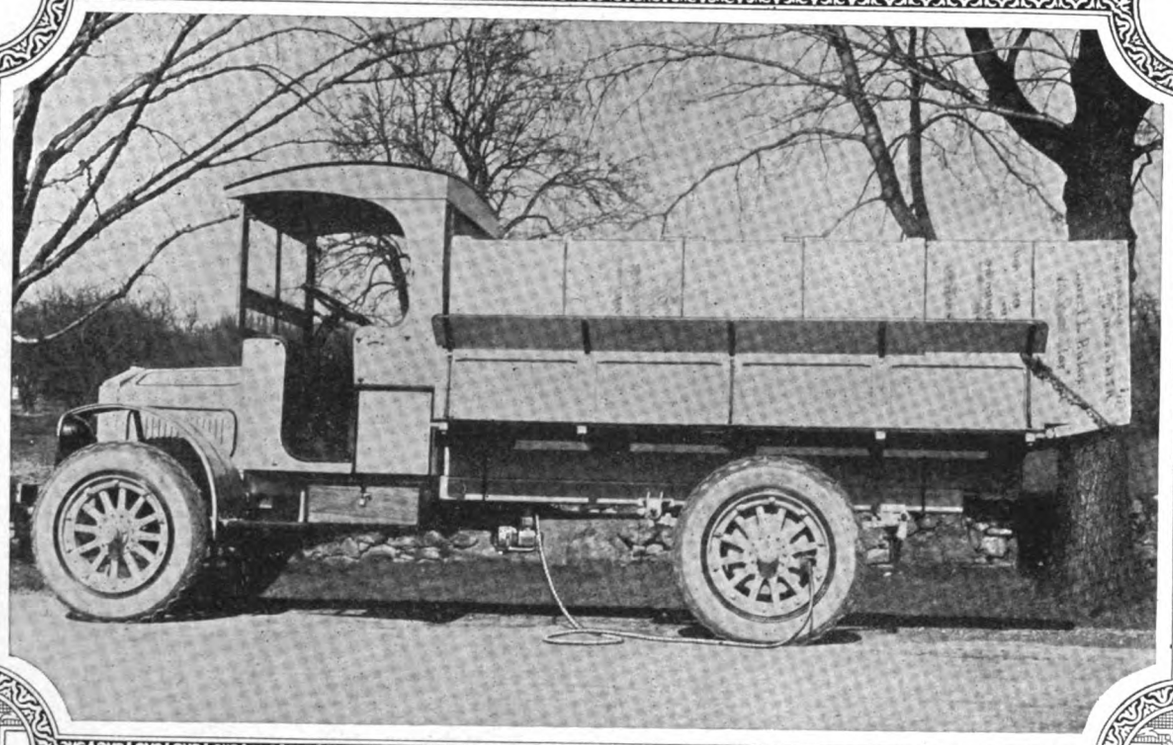

No Motor Truck or Motor Car is completely equipped that is not equipped with a Kellogg Engine-Driven Tire Pump

Leadership

For years the KELLOGG MANUFACTURING COMPANY has enjoyed the distinction of leadership in the manufacture of tire pumps—leadership attained solely on the merits of KELLOGG PUMPS.

Practically all of the leading motor trucks and motor cars manufactured today are equipped with KELLOGG PUMPS.

KELLOGG PUMPS have made pneumatic tire trucks possible.

KELLOGG PUMPS have increased the pleasure of motoring—by reducing delays and inconveniences on the road.

There are no better tire pumps than KELLOGG PUMPS.

CAUTION

Make sure the Motor Truck or Motor Car you buy is equipped with a Kellogg Engine-Driven Tire Pump.

KELLOGG MANUFACTURING CO., Rochester, N. Y., U. S. A.

KELLOGG TIRE PUMPS

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General Motors Trucks

What of The GMC Future?

The years of conscientious effort spent on GMC Trucks are yielding their reward in the remarkable reputation the truck has built for itself.

Wherever you go you will hear consistent praise for GMC Trucks. Everywhere they are classed only with products of highest merit.

From a position among the practically unknown trucks a few years ago this leap to first place has come about through the GMC policy of real quality.

To be a dealer or distributor of GMC Trucks is to be, first, the sponsor of a product of top-notch merit; second, the representative of a monster organization specializing on motor trucks.

Behind every factor concerned in the manufacture of GMC Trucks is plenty of capital in the form of money, factory equipment and organized mechanical knowledge.

These things mean not only present success, but future promise of profit. A greater future is about to open up to all who are interested in GMC Trucks. To be a GMC representative is a fortunate position to be in at this time.

GENERAL MOTORS TRUCK COMPANY
One of the Units of the General Motors Corporation
PONTIAC, MICH., U. S. A.

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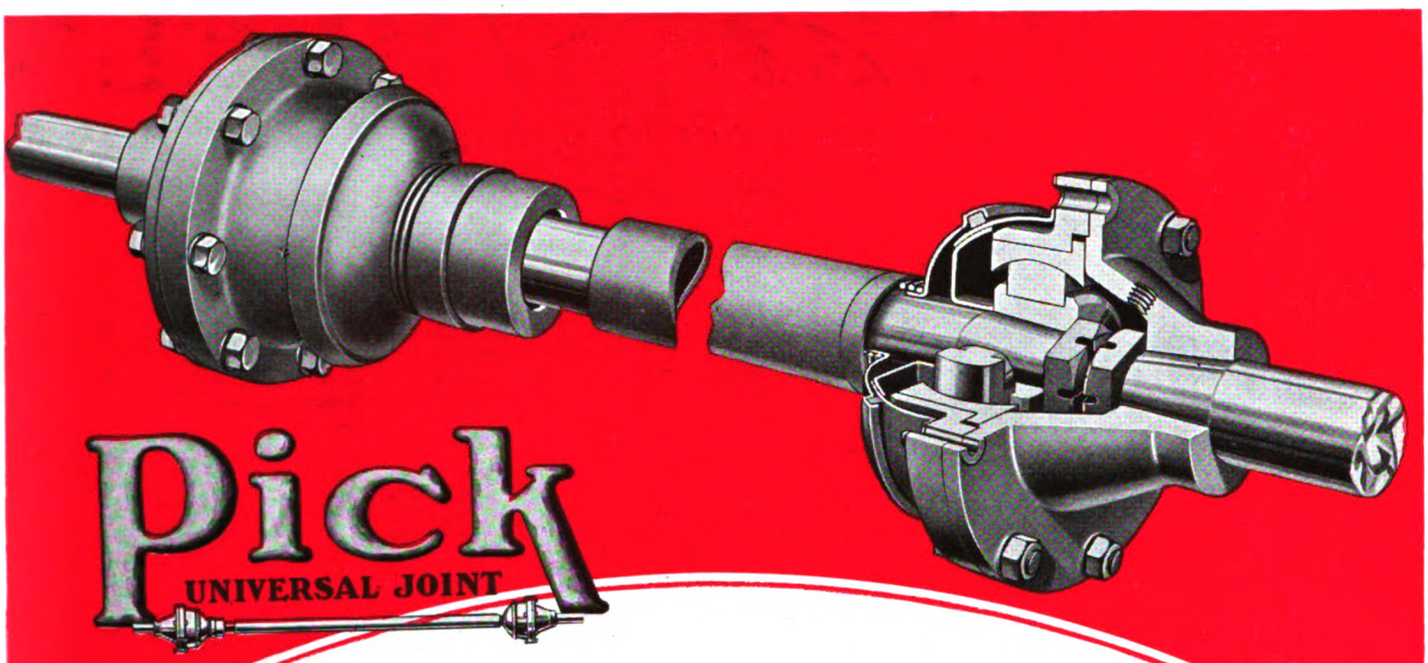

This Sliding Block Universal Equalizes Strains

Sliding blocks of alloy steel allow free motion in every direction in the Pick Universal Joint.

Any strain, therefore, is instantly distributed among all the members, instead of ***over***-straining any one member.

The same bearing pressures are maintained at all positions of the drive.

Further reasons for Pick strength and stamina are more compact construction, larger bearing surface and positive lubrication.

Manufacturers, Engineers and Production Managers will be interested in our Blue Print Portfolio. Write for it.

Carl Pick Company

MANUFACTURERS

West Bend, Wisconsin, U. S. A

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SCHWARZ WHEELS

WITH INTERLOCKED SPOKES

41,200 lbs. on 3½-Ton U. S. Truck

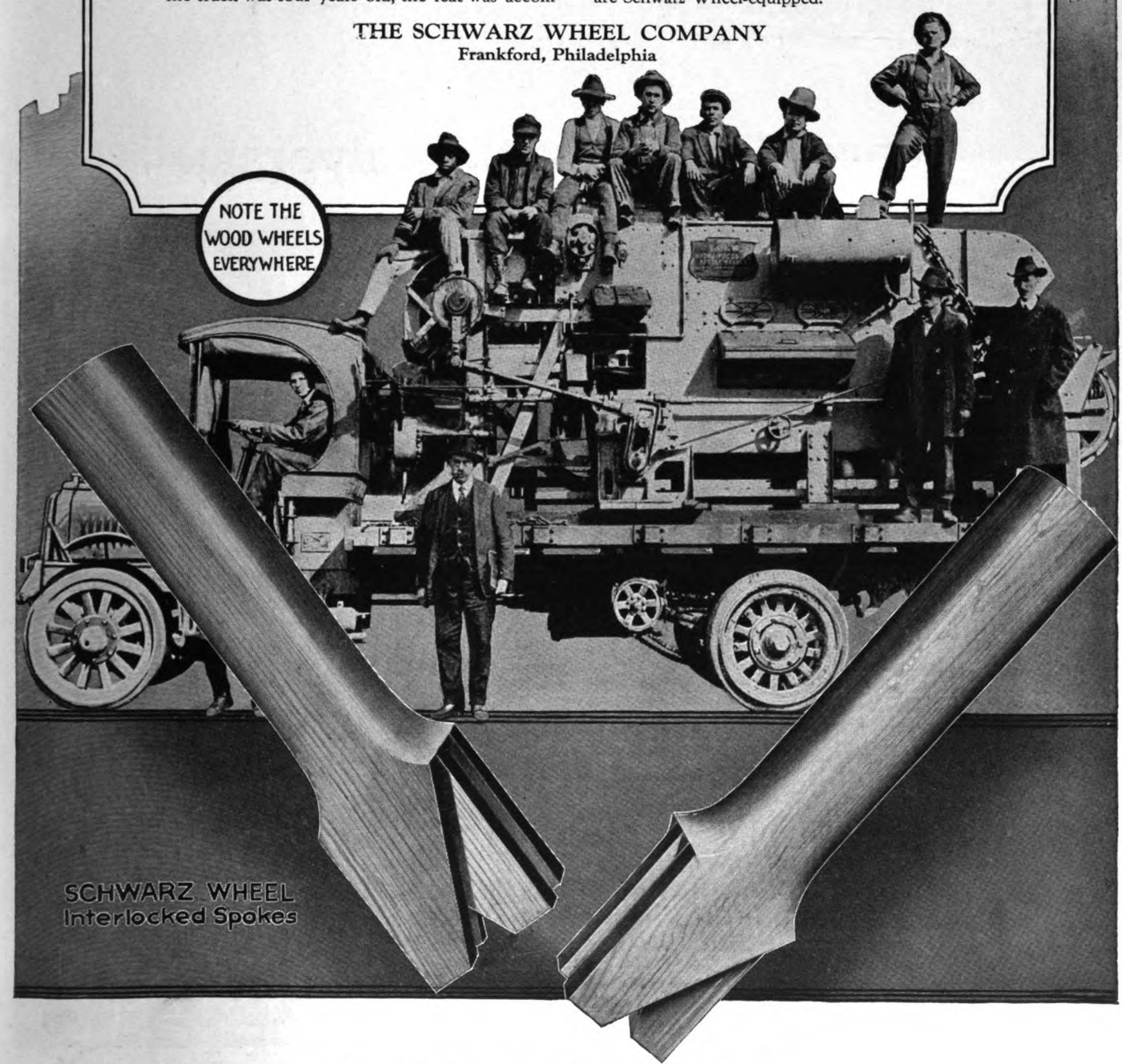
THE Coca-Cola Company of Huntington, W. Va., offered $500 to anyone who would haul a huge bottling machine from the railroad to their factory, a distance of nearly two miles.

The offer attracted the owner of this 3½-ton Schwarz Wheel-equipped United States truck. He figured the sum offered warranted taking a chance. In spite of the fact that the load was almost seventeen tons more than the truck's rated capacity and that the truck was four years old, the feat was accomplished without the slightest hitch. The Schwarz Wheels carried not only the 41,200-lb. bottling machine but the weight of the truck as well.

Wheels are seldom submitted to such severe tests in actual service. Nevertheless Schwarz wheels in laboratory tests register ten times their rated capacity—a wide margin of safety.

Every Schwarz wheel is built with Schwarz Interlocked Spokes. The spokes fit into each other at the hub, forming an assembly that is practically indestructible—capable of withstanding enormous radial-load and side-thrust. The world's best trucks are Schwarz Wheel-equipped.

THE SCHWARZ WHEEL COMPANY
Frankford, Philadelphia



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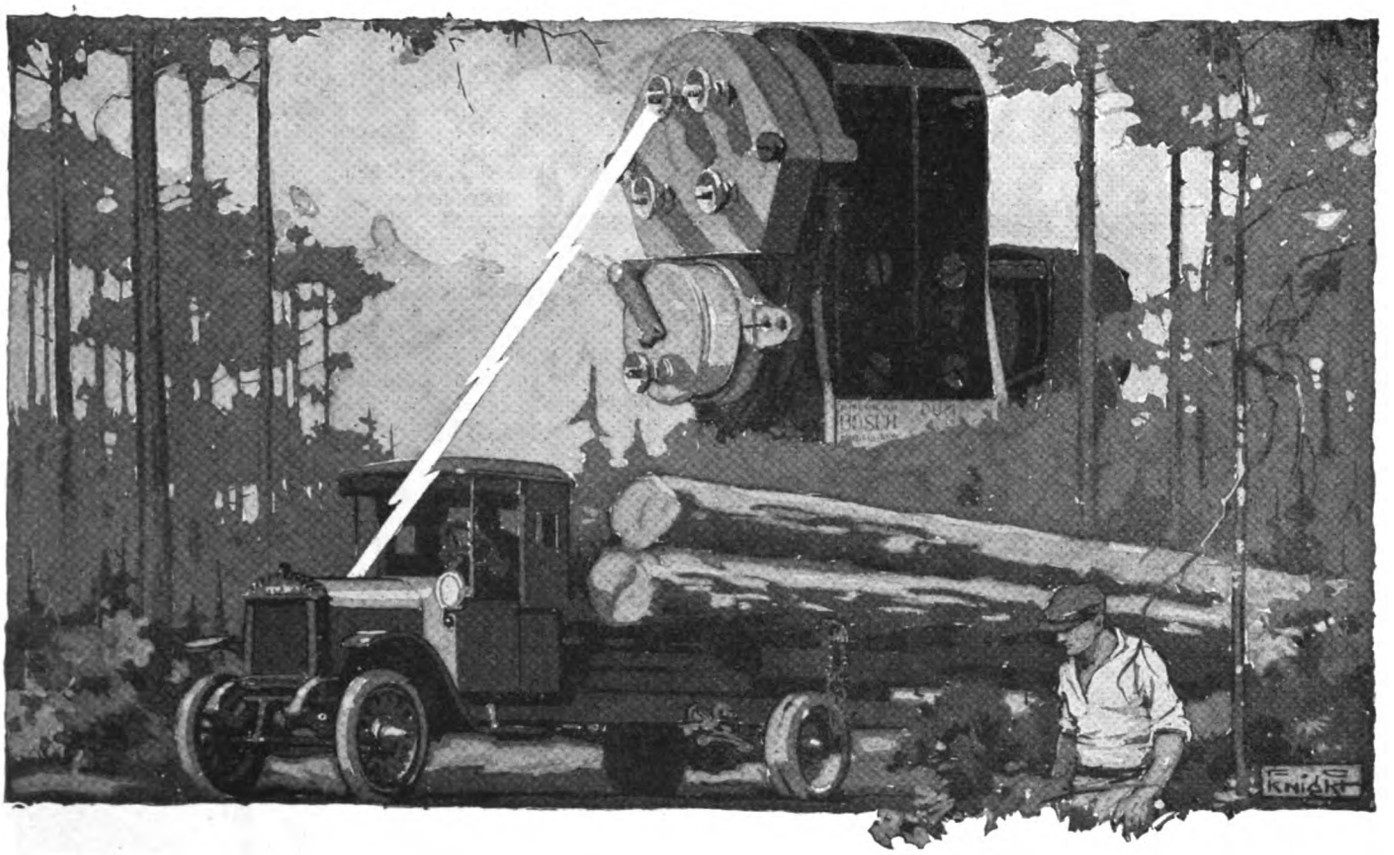

BOSCH

MAGNETO

Making Truck Sales Easy

Does your ignition system help to sell your trucks—or are they harder to sell on account of it?

Trucks sell much easier if they have Bosch Magneto Ignition. The Bosch reputation and huge advertising campaigns have taught your "prospects" that Bosch insures dependability and efficiency in engine operation.

When ordering from your factory, therefore, insist on Bosch Magneto Ignition. It will benefit you in three ways—bettering your product, satisfying your customer and furnishing a strong, unapproachable selling argument.

Don't let the ignition slow up your sales—insist upon Bosch and "cash in" regularly and often.

Be Satisfied **Specify Bosch**

300 Service Stations in 300 Centers

AMERICAN BOSCH MAGNETO CORPORATION

Main Office and Works: **Springfield, Mass.**

Branches: **New York, Chicago, Detroit, San Francisco**

AMERICA'S SUPREME IGNITION SYSTEM

MOTOR TRUCKS - TRACTORS - AIRPLANES - MOTOR CARS - MOTOR BOATS - MOTORCYCLES - GAS ENGINES - ETC.

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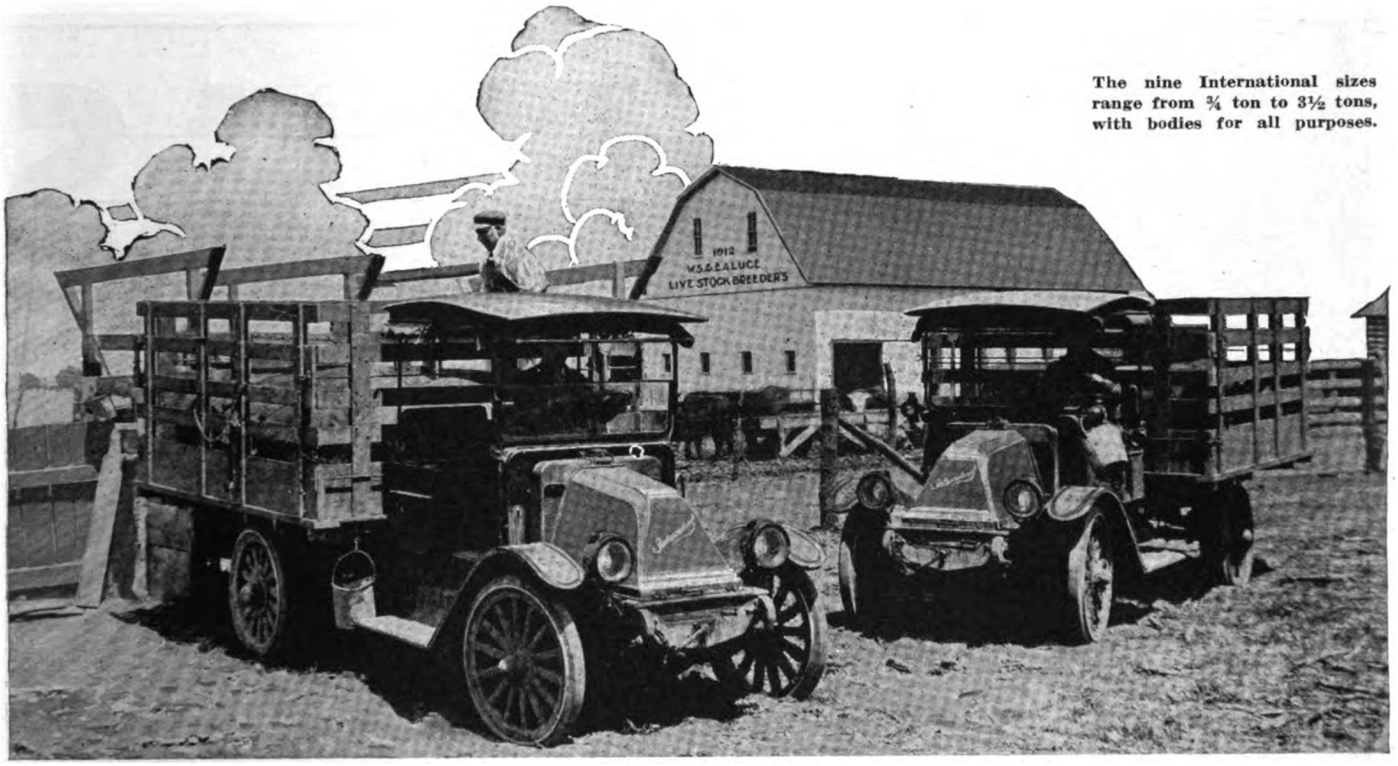

The nine International sizes range from ¾ ton to 3½ tons, with bodies for all purposes.

Conquer the Great Rural Motor Truck Market
Help the Farmer
Replace Snail-pace Haul ng
with the International Motor Truck
—Trusted in Town and Country Alike

THIS Company's history has been one of long and intimate contact with farming problems. Its products are practical and successful machines. It has built an enviable reputation out of four generations of satisfaction—a reputation being jealously guarded by careful management and workmanship today.

The worth and value in **International Motor Trucks** as an essential in rough-shod hauling may therefore be implicitly believed.

For fifteen years this Company has been making heavy-duty engines and tractors and for nine years building motor trucks. Today Internationals are among the few leaders in total motor truck sales. They are at work on difficult mountain trails as well as on city pavements—and they are doing the miscellaneous hauling on thousands of farms.

International Motor Trucks are the product of the great plant at Akron, Ohio, which builds International trucks exclusively. Wherever they serve, they are guarded by International service—a close guardianship which has created a tremendous good will among owners. Use this good will and this great reputation. Help a hundred men and firms in your vicinity to solve their hauling problems by **International Motor Truck** investment.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA INC.
CHICAGO U S A

NINETY-TWO BRANCH HOUSES IN THE UNITED STATES

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ATLAS WORM-DRIVE

The Atlas Accessible Worm Drive

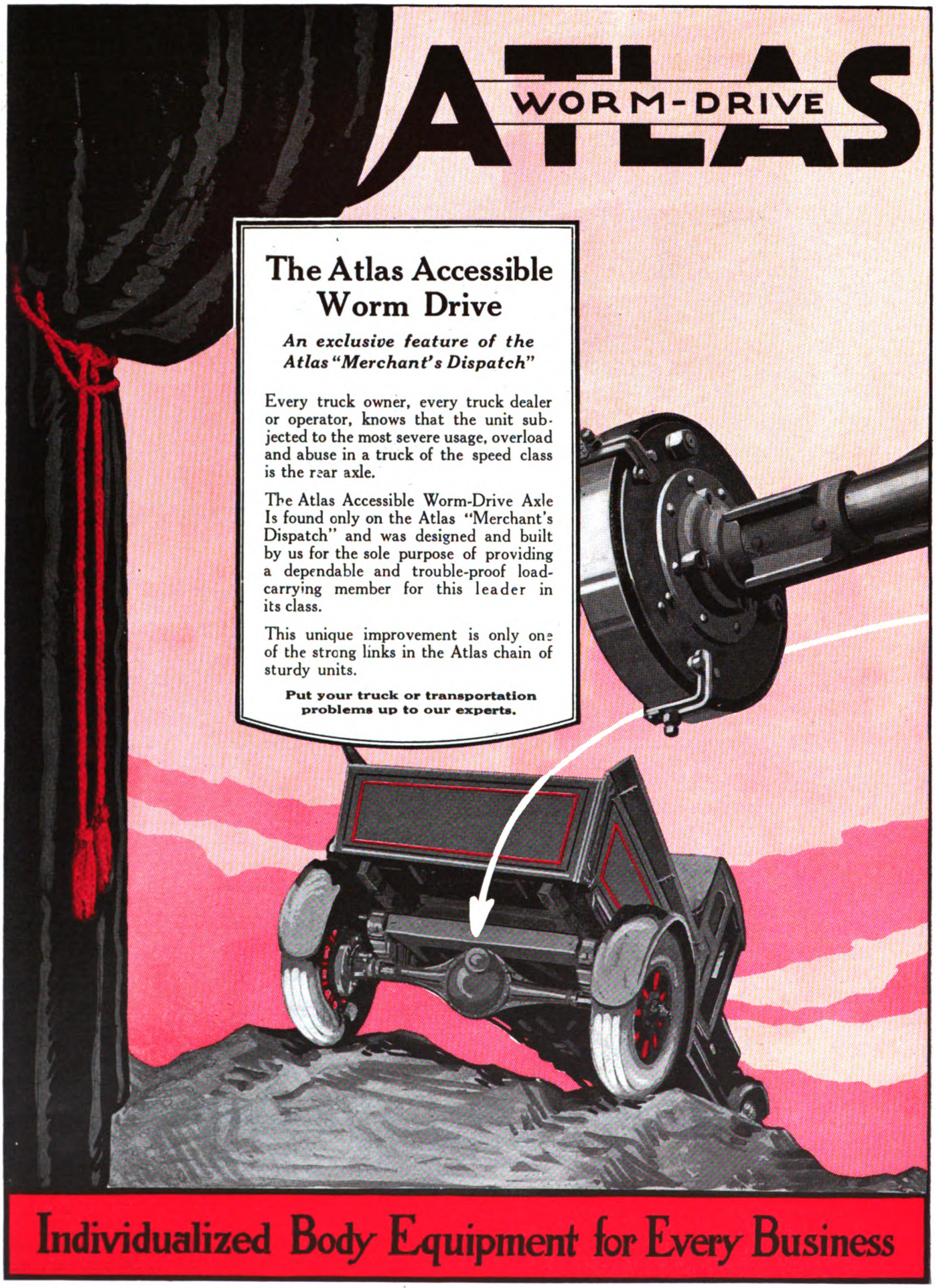
An exclusive feature of the Atlas "Merchant's Dispatch"

Every truck owner, every truck dealer or operator, knows that the unit subjected to the most severe usage, overload and abuse in a truck of the speed class is the rear axle.

The Atlas Accessible Worm-Drive Axle Is found only on the Atlas "Merchant's Dispatch" and was designed and built by us for the sole purpose of providing a dependable and trouble-proof load-carrying member for this leader in its class.

This unique improvement is only one of the strong links in the Atlas chain of sturdy units.

Put your truck or transportation problems up to our experts.



Individualized Body Equipment for Every Business

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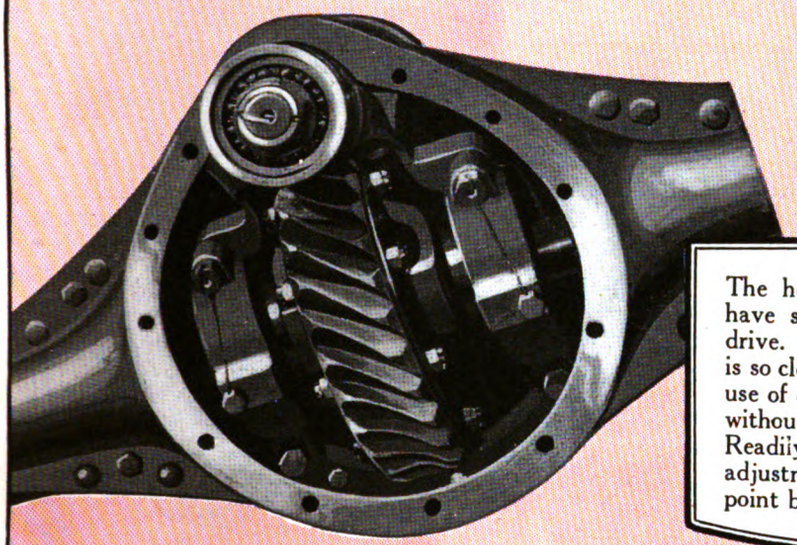
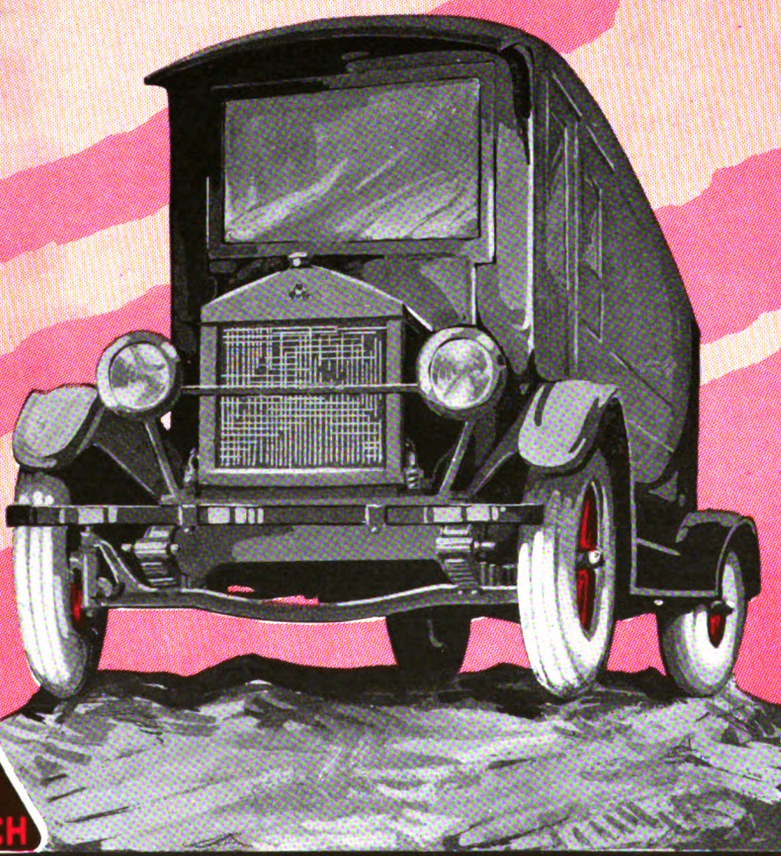
"MERCHANTS' DISPATCH"



The heavy-duty expensive trucks have standardized the worm-gear drive. Atlas Accessible Worm-drive is so cleverly designed that it makes use of every worm-drive advantage, without the excessive weight. Readily accessible; fool-proof in adjustment because of its three-point bearing.



ATLAS
MERCHANTS DISPATCH

ATLAS TRUCK CORPORATION
YORK PENNSYLVANIA

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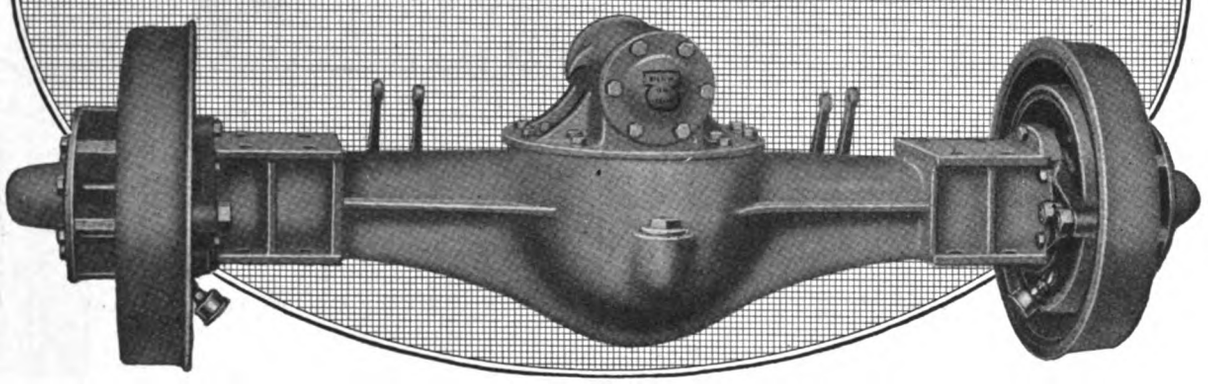
WISCONSIN AXLES



The Quality of the Axle Indicates the Quality of the Truck

Today some people will buy a particular make of truck because it is low in price. Eventually they learn that first cost is merely an incidental, and that low efficiency, high gas and oil consumption, repair costs, lost time, replacements and annoyance make the "cheap" truck extremely expensive to operate.

The semi-floating, ball bearing worm drive axle has the fewest parts and is probably the highest priced type of truck axle. Is it not reasonable to assume that only high grade truck manufacturers will use it? Examination of motor truck specifications bears out this assumption.

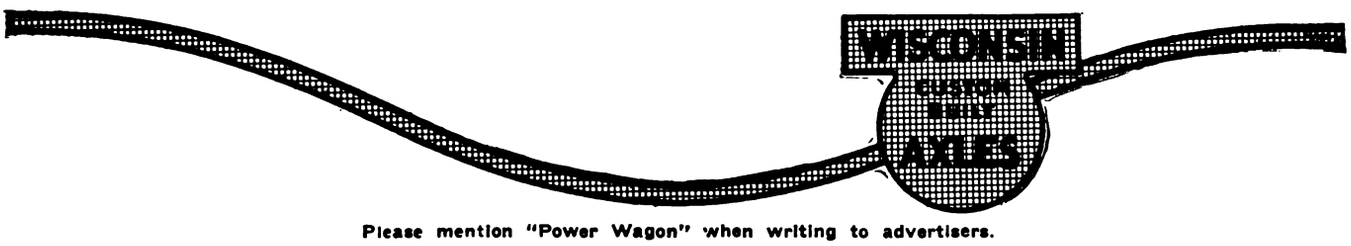
The David Brown type of worm gear has been demonstrated to have an average efficiency of over 97% at *all* operating loads and speeds. No type of gearing has demonstrated higher efficiency.

Ball bearings are more efficient and higher in price than plain bearings or roller bearings—these are generally recognized facts.

Given the most efficient gearing, the most efficient bearings and the simplest construction, it must be evident that Wisconsin Axles have every advantage consistent with the highest performance. Wisconsin price is amply justified by the low operating cost resulting from their efficiency (which saves gas and oil) and their freedom from trouble, repair and expense.

WISCONSIN PARTS COMPANY

OSHKOSH, WISCONSIN



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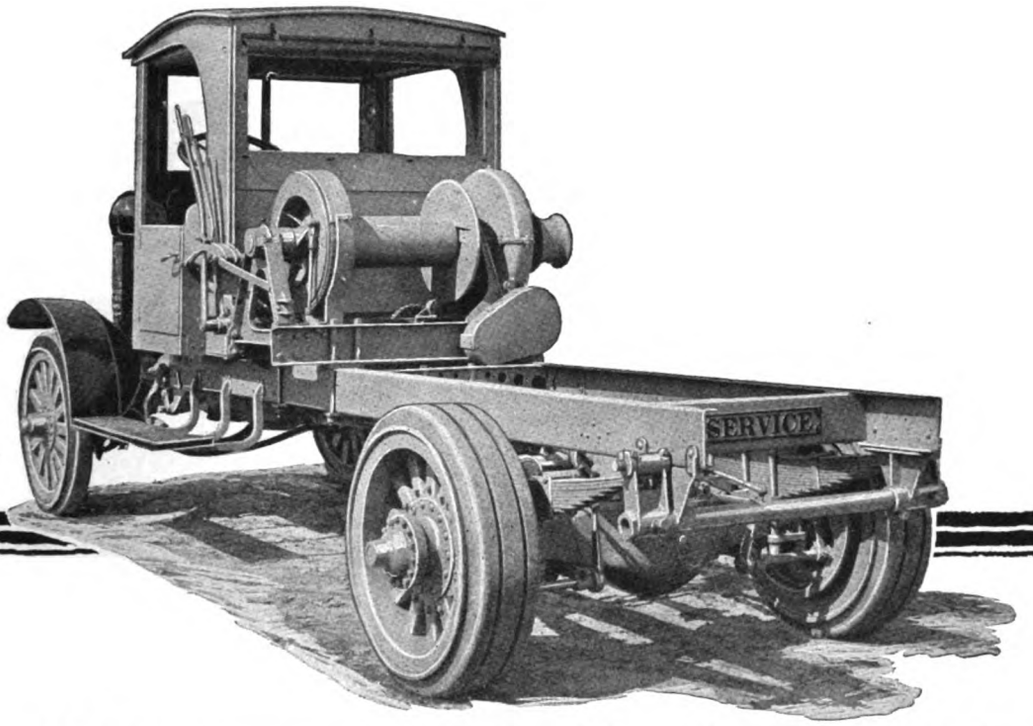

A Statement by the Service Truck Co. Fort Worth, Texas

During the three years that we handled the SERVICE line we have been impressed with the thorough co-operation and assistance that we have received from the factory organization. Orders are promptly acknowledged and immediate information is given as to when we can expect shipment. After investigating the merits of SERVICE Trucks, we believe you will agree with us that they are the best on the market at any price. Moreover, you could not ask for a better organization to do business with. We feel sure that an organization so sound and responsible financially, and impelled by a determination to build the best product and to render the best service, has a great future.

Scores of SERVICE dealers have written similar letters.

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Consider also that SERVICE Trucks are built in 80 different combinations of power, speed and carrying capacity—a truck to fit every need of every purchaser.

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Write today, stating the territory you desire and we will mail you complete details of a most attractive proposition.

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POWER WAGON

VOL. XXIV. CHICAGO, JULY, 1920. No. 188.

Uncle Sam's Economy to Curb Highway Transport

ROAD-BUILDING GETS UNNECESSARY BLOW

WASHINGTON, D. C., June 23.—The United States government departments, bureaus and agencies will, for the most part, operate on curtailed allowances of expense money beginning July 1, 1920, and this reduction of operating funds will in some instances interfere with projects from which the power wagon community would derive much benefit. For one thing, the enforced economy will prevent the United States Bureau of Foreign and Domestic Commerce from carrying out a plan that was in prospect to investigate and cultivate foreign markets for American motor trucks and adjuncts. The United States Bureau of Standards which is doing important research and experimental work in the fields of alloys, tires, paints, etc., not to mention its electrical work which has an automotive "end," will likewise be denied an opportunity to expand as had been contemplated.

From the motor truck man's standpoint perhaps the most serious consequence of the determination to reduce the government's current expenses is to be found in the limitations that will be placed upon the government's scientific investigations of road materials and upon the progressive series of field experiments designed to determine the comparative values of the various methods of road construction and maintenance. For the year 1920-1921 there

(Continued on page 19.)

Durant Pictures Bright Future for the Motor Truck Industry

W. C. Durant, president of General Motors Corporation, believes that the United States will be producing 1,500,000 motor trucks annually within a few years. That American farmers will take a substantial part of this enormous output is revealed in some statistics gathered by Goodyear Tire & Rubber Company.

About 25,000 of all classes of farmers in the United States were reached by questionnaires sent out by the Goodyear company. It is believed that the replies received were typical of 2,000,000 out of the nearly 7,000,000 farms in the country.

More than 44 per centum of the farmers questioned stated that they were considering the purchase of motor trucks. Applying this percentage to the 2,000,000 farmers which it is estimated the replies represented, there are revealed nearly 1,000,000 prospective motor truck buyers.

Only 26 per centum of the farmers who replied were motor truck users, while 74 per cent used horses. Reasons why those who believe in motor trucks did not buy them immediately indicate that 33 per centum were holding back for financial reasons and 11 per centum felt that the highways were not sufficiently developed.

More Motor Trucks Are Needed By Farmers of New York State

A survey of the New York State farm market by county agricultural agents shows that in 38 counties there are 6,118 motor trucks in use on farms and that there is a demand for more. Following is a summary of the survey:

Is there a real need for more motor trucks among farmers in your country?

Of the 42 county agents reporting, 31 (or 74 per centum) stated that there is a real need for more motor trucks; 6 (or 14 per centum) that there is no need; and 5 (or 11 per centum) tha the need was limited.

What size motor truck does the farmer want?

In 29 counties the need is for machines from 1- to 2-tons capacity; in 6 counties the need is for those of less than 1-ton; in 3 counties the need is for motor trucks from 2½- to 5-tons. The smaller sizes are used for milk hauling in sections where dairying is a minor operation; the larger sizes in truck garden sections adjacent to large cities.

How many motor trucks are owned by farmers in your county?

Total for 38 counties, 6,118. Four counties gave no figures, but one reported "many."

How many farms in your county?

In the 41 counties replying there are 50,713 farms.

From the facts that 74 per centum of the county agents stated there is a real need for more motor trucks and considering the present ratio of motor trucks to farms as 1 to 8.3, it is clear that New York State offers an attractive field for the sale of motor trucks.

Armleder Discontinues Wagons

The increased demand for Armleder motor trucks has completely eliminated the manufacture of Armleder wagons. Space which was formerly used for the storage of wagons and wagon parts is now equipped with the latest, most expensive, high-speed machinery which is used to do the fine machine work on Armleder motor trucks. In the last two years the sales of Armleder motor trucks have doubled over those of each previous year and it is expected that in 1921 they will be twice the amount of sales for 1920.

National Solons Treat Truck Like Step-Child

NEGLECT TO PASS NEEDED LEGISLATION

WASHINGTON, D. C., June 24.—Deliberate inventory of the mass of legislation that was rushed through by the sixty-sixth congress in the last feverish days of its second session fails to reveal any enactments of direct and deep significance to the motor truck industry and kindred lines. Rather does it appear that congress has designedly postponed until its next session most of the legislative proposals which most intimately concern the makers and marketers of motor trucks. This is the case with the proposition for a national highway system under federal auspices. Likewise, was there sidetracked until next December the measure for the reorganization of the United States Patent Office, involving an extension of facilities sorely needed by would-be patentees of automotive inventions and by the trade interests that would protect against imitation and infringement, trade-marks, distinctive motor truck designs and other elements of good-will.

Termination of the legislative session without the grant of any relief from the iniquitous "excess profits" tax nor from

(Continued on page 24.)

States Take Up 95 Per Centum of Their Federal-aid Allotments

The remarkable rate at which the number of Federal-aid road-building projects has increased since the war is shown in a summary relating to all such work from September 30, 1916, to April 30, 1920, which has been prepared by the Bureau of Public Roads, United States Department of Agriculture. On the latter date the States had filed with the bureau 2,885 project statements, of which 2,790 had been approved, representing 27,796 miles of highway. The totals on April 30, 1919, were little more than one-third these amounts. Up to May 1 of this year 1,974 projects had proceeded to the stage at which plans, specifications, and estimates had been delivered to the Bureau of Public Roads. The plans, specifications, and estimates of 1,827 of these had been recommended for approval, representing 13,845 miles. Project agreements had actually been executed and construction work was in progress on 1,569 projects, totaling 11,987 miles. In addition, work had been begun on about 100 projects for which agreements had not actually been signed, thus expediting the progress of the work

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and bringing the total mileage under construction up to 13,540. The summary shows that a great reduction has been made in the time required for preliminary work before actual construction is begun.

On the average the States have submitted projects statements for nearly 95 per centum of their respective allotments and have entered into agreement to construct highways which call for about one-half of their Federal-aid money. The projects actually completed and paid for are comparatively few, but they are materially exceeded in number by those which are practically completed. California, Delaware, Illinois, Idaho, Indiana, Iowa, Kansas, Louisiana, Maine, Maryland, Minnesota, Nebraska, New Hampshire, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Utah, Washington, West Virginia, and Wyoming have each submitted approved projects statements for all or nearly all of their allotments.

Industry to Get Setback Unless Railways Meet Growing Demands

While the freight traffic of the country actually carried has increased 45 per centum in 4½ years, the number of feight cars has increased only 2 per centum and other railway facilities in proportion.

In spite of the increase in the amount of freight they are actually carrying, the railways can not now handle all freight offered. Editor Dunn of *Railway Age*, said, in speaking before the Pittsburgh Rotary Club recently "Unless the capacity of railroads is rapidly and greatly increased, it will be impossible for new and enlarged industries to get sufficient raw materials hauled or to ship the finished products to market. This means that these industries will be unable to earn a return upon the new investment. Unless a policy of legislation and regulation, which will encourage a greater expansion of railroad facilities is adopted, in a few years we will have an industrial, commercial and financial convulsion."

Norton Leaves Goodrich for G. M. C.

S. V. Norton has been appointed service manager of the General Motors Truck Company, effective July 1, H. L. Beckwith having resigned. For fifteen years he has been with the Goodrich Rubber Company, starting as first assistant to the general superintendent. Then he joined the sales department attending to the government business, and for ten years he has been in charge of the solid tire department. Mr. Norton is a thorough student of motor trucks and tire problems and is author of the widely read book, "The Motor Truck as an Aid to Business Profit." A member of the S. A. E., of highway councils and other organizations, his wide knowledge of everything pertaining to transportation from a commercial viewpoint makes him particularly fitted to solve all problems that pertain to motor truck service.

Credit Convention in September

The 1920 Credit Convention of the Motor and Accessory Manufacturers' Association has been tentatively scheduled for Thursday and Friday, September 16 and 17, at Cleveland, Ohio. In view of the vital problems affecting the automobile industry, in relation to the general financial and credit conditions, it is believed that this year's credit convention will be one of the most interesting and most important in the history of the association.

Graham Renders Service To Trucks in Washington

HIS FACTS AND FIGURES AID CONGRESS

WASHINGTON, D. C., June 22.—No greater service in behalf of motor truck interests has been performed recently at Washington than that of George M. Graham, sales manager of the Pierce-Arrow Motor Car Company, in disabusing the minds of congressmen of the idea that the interest of the motor truck industry in the cause of good roads is a narrow, selfish interest inspired by a belief that the sales field of the motor truck industry will expand proportionately with every mile of improved highway that is provided. Talking to this text, Mr. Graham said: "In the industry, the question of national highways, as embodied in any bill going into the construction of highways under control of a commission, is only a small part of our interest. There will never come a time that we can hope to operate over those trunk lines, so to speak, more than a very small percentage of our total output."

Speaking for the industry as a whole, Mr. Graham proclaimed at Washington the passing, on the part of the railroads, of any antagonism to motor truck haulage. "The whole tendency of the railroads," said he, "based on the lessons of the war, is to get over having any antagonism toward motor-vehicle haulage and to recognize that it can be very adequately used to supplement railroad haulage. Not only that, but it can be utilized in many cases to relieve the railroads of a deficit that less than carload freight carries when brought in on non-profitable small lines to the main line. R. C. Wright, general traffic manager of the Pennsylvania Railroad and president of the American Railway Association, a man whose knowledge is practical, says: "There is no advantage at all in the hallage of freight by railroad under 40 miles. The economic motor truck zone might be extended to a point farther than 40 or 50 miles, but if we are only effective within that limit we can do some very wonderful things."

To Date War Department Has Placed 12,000 Motor Vehicles in States

To date the War Department has turned over to the United States Department of Agriculture approximately 24,000 motor vehicles, as provided in congressional legislation empowering the latter department to distribute this war material among the State Highway Commissioners for use in road building, allotments of the vehicles to be based on the amount of federal aid for roads which the states receive. This is practically all the vehicles which the War Department has to release. Of this total 12,000 have been delivered to the states. The remainder will be distributed as fast as railway cars can be secured for their transportation. Representatives of the Bureau of Public Roads, in charge of the matter, believe that within two or three months all of the vehicles will have been delivered to the states. This equipment promises to be a great aid in carrying out the large road building program for 1920.

The State Highway Commissioners are also interested in securing allotments of tractors, steam shovels, locomotive cranes, automotive cranes, industrial railway track, dump cars, and industrial locomotives which remain to be disposed of by the War Department. A measure known as the Kahn Bill, directing the Secretary of War to release this material for the State Highway Commissioners, has passed the senate and has been reported out of the committee in the house. Until the Secretary of War has been directed by congress to turn over the equipment it is not likely that it will be available for state distribution.

"Facto" Name of New Truck

Adolf A. Geisel, who has been Eastern district manager and special representative for the Federal Motor Truck Company since 1912, is going to manufacture motor trucks in Springfield, Massachusetts. The motor truck will be known as the Facto, and will be built of standard units.

Mr. Geisel has purchased fifty-five thousand square feet of land, facing Pecousic Boulevard and the N. Y., N. H. & Hartford Railroad tracks. Plans have been drawn for a complete motor truck plant. Contracts for the first building have been let and the work is progressing rapidly, so that part of the plant can be occupied by July 1.

Winther Starts New Building

The Winther Motor Truck Company, of Kenosha, Wisconsin, has broken ground for a large addition to its present plant and it is anticipated that the new building will be completed and ready for occupancy about August 30. The new structure is 60 feet wide by 400 feet long and will be of modern saw-tooth construction, with concrete floors, brick walls, and a wide skylight extending the entire length of the building. No labor saving device or safety appliance has been overlooked in equipping this new addition, the entire plant being laid out for high speed production. Shipping facilities will be excellent, for the new plant lies within a few feet of the Chicago Northwestern Railroad, and spur tracks pass between the two buildings with ready access to receiving and loading platforms. It is thought that the extra manufacturing space will permit the Winther company to more than double its present output.

Estimates 200,000 Trucks for 1920

In the year 1919 the people of Wisconsin purchased 36,110 automobiles and 4,028 motor trucks. At $1,000 apiece for automobiles, the investment was $36,110,000. Assuming that motor trucks cost an average of $1,500 each, this represents an investment of $6,042,000, or a grand total of $42,152,000. Using these figures as a basis, officials in the Motorize the Farm Bureau, Goodyear Tire & Rubber Company, estimate there will be at least 200,000 prospects for motor trucks in 1920.

Service Increases Capital $1,000,000

At a special meeting of the stockholders of the Service Motor Truck Company, held on March 30, the capital stock was raised from $2,000,000 to $3,000,000, by the authorization of an additional issue of $1,000,000 of preferred stock. The rapid expansion of the business and the addition of new factory buildings made this increased capital necessary, and the increase will provide for an expansion program made necessary by the ever-increasing volume of sales.

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Federal-Aid Allowances Too Low to Boost Roads

UNCLE SAM'S SHARE IS $20,000 A MILE

WASHINGTON, D. C., June 23.—Every maker or user of a motor truck has reason to be vitally interested in a measure in congress which up to this time has received too little attention, viz., the measure introduced in the senate by Senator Wadsworth and in the house by Representative Hicks, the object of which is to allow the national government to increase its allotment on federal-aid roads from $20,000 to $30,000. It is patent that only by this concession to the increased cost of road-making materials and labor will it be possible to obtain in some localities roads that will stand up under modern conditions of highway transport.

During a recent visit to Washington, Frederick Stuart Greene, state highway commissioner of New York, told senators that in states such as New York, Massachusetts, Pennsylvania and Connecticut, with traffic conditions as they are to-day, at least $40,000 a mile must now be allowed for road construction if the roads are to last more than five years. As a matter of fact many of the recently constructed stretches have cost as much as $44,000 per mile. When coöperative road building was inaugurated the national government allowed only $10,000 per mile. Later the government increased its quota to $20,000 a mile, which with state aid allows $40,000 per mile. It is contended that with the later advances in prices and wage levels there must be a further boosting of the limit if road construction is to continue.

An ingenious explanation was given to the senators of why so much high-cost road now appears in the programs of the states where motor truck traffic is heaviest. The increase in the cost of labor and materials is mainly responsible, as above mentioned, but there is also the circumstance that there has been a disposition in years gone by to pick out "the easy portions" for improvement and to postpone work on the rough, mountainous stretches or other sections that involve especial difficulties. Consequently the present-day road improvement program involves (for the sake of closing the gaps in state-wide road systems) a disproportionate amount of high-cost roads. As an illustration of just this sort of expensive road project which must, however, be carried out without further delay if main arteries of motor truck traffic are to be hooked up to provide continuous and economical routes, there has been cited the route in Rockland County, New York, where heavy rock excavations complicate the task—a task which must, nevertheless, be faced, if there is to be a continuous route on the west bank of the Hudson from New York to West Point and beyond. In certain localities the cost is up because there are not available locally suitable materials for road building and in conseqence stone and other needed ingredients must be carried considerable distances.

Capt. P. St. J. Wilson, chief engineer of the office of public roads, has, in response to inquiries from senators, endorsed the proposal to increase the amount of the appropriation per mile and has given to congressmen some impressive facts with respect to present-day costs. Speaking of the matter the other day, Capt. Wilson said: "The State of New Jersey is building a road between Philadelphia and New York, which is probably the heaviest traveled road in the United States, at a cost of between $90,000 and $100,000 a mile. The State of Delaware has built one piece of road costing over $100,000 a mile on that same route." The discussion anent the increase in per-mile appropriation, has, for one thing, brought expressions of expert opinion that are almost unanimous to the effect that after the lessons of last winter there is only one type of road worthy of consideration where motor truck traffic is to be accommodated, and that is the concrete road.

Uncle Sam's Economy

(Continued from page 17.)

will be available government funds as follows: For inquiries in regard to systems of road management and for giving expert advice on this subject, $36,200; for investigations of the best methods of road building and the best kinds of road-making materials, and for furnishing expert advice on road building and maintenance, $102,300; for investigations of the chemical and physical character of road materials, for conducting laboratory and field experiments and for studies and investigations in road design, independently or in coöperation with state highway departments and other agencies, $77,020; and for conducting field experiments and various methods of road construction and maintenance in conjunction with the investigation and development of equipment intended for the preparation and application of bituminous and other binders, $25,000.

English Car Demand Shows Big Increase

Trade in 1919 in American motor tractors and automobiles in the Leeds district, and in fact all Yorkshire, England, was phenomenal; the demand greatly exceeded the supply. This was due to the slow delivery of the goods caused by congestion, strikes and difficulties in handling at the docks on both sides of the Atlantic, as well as to a shortage of ocean freight space.

Prices during the year had a rising tendency, owing to increased cost of freight, labor, insurance and the rate of exchange. At the end of 1919 the prices asked for American motor vehicles in Yorkshire had increased from 15 to 20 per centum as compared with the early part of the year, and those asked at the beginning of 1920 are at least 100 per centum higher than the pre-war prices.

To Exhibit Freight Handling Machinery

Virtually every type of machine used in handling freight shipments at the steamship piers and railroad terminals will be exhibited at the Electrical Exposition to be held at the Grand Central Palace, New York City, in October. These exhibits, which are to be a special feature of the show, will be presented and demonstrated under the auspices of the Material Handling Machinery Manufacturers' Association.

Road-Building Materials Show Wide Cost Range

IOWA HIGHEST FOR CONCRETE PAVING

Recently the Nebraska State Bureau of Public Roads sent out questionnaires to several states requesting prices on items entering into the building of roads. Many of the replies are very interesting, as may be judged from the reports from the following states:

STATE OF MISSOURI.

Earth excavation, $0.75.
Concrete, $2.75 (eight inches in depth, one course).

STATE OF IOWA.

Earth excavation, $0.66 per cu. yd. (straight grading).
Earth excavation, $1.10 per cu. yd. (for paving).
Concrete paving, $4.06 per sq. yd.
Brick paving, $5.62 per sq. yd.
18-inch concrete pipe, $1.72 per lin. ft.
18-inch corrugated pipe, $1.72 per lin. ft.

STATE OF COLORADO.

Earth excavation, $0.285—$1.35 per cu. yd.
Concrete paving, $2.59—$3.17 per sq. yd.
18-inch corrugated pipe, $3.75—$4.10 per ft. in place.

STATE OF MICHIGAN.

Earth excavation, $0.70—$1 per cu. yd.
Concrete paving, $2.70—$3.80 per sq. yd.
No bids awarded in excess of $3.05 per sq. yd.
Bituminous concrete, $3.60—$3.90 per sq. yd.

STATE OF ILLINOIS.

Earth excavation, $0.80 per cu. yd.
Concrete, $1.80 per sq. yd., excluding cement.
Brick, on concrete base, $3.39 per sq. yd., excluding cement.

STATE OF MINNESOTA.

Earth excavation, $0.55 per cu. yd.
Earth excavation, $0.65 for paved road.
Concrete, $3 per sq. yd. gravel aggregate.
Concrete, $3.25 per sq. yd. stone aggregate.
Bitulithic, $4.25 per sq. yd.
18-inch concrete pipe, $1.55 per lin. ft.
18-inch corrugated pipe, $1.92 per lin. ft.

STATE OF SOUTH DAKOTA.

Earth excavation, $0.60 (highest in 1919).
18-inch corrugated pipe, $2.50 installed.

STATE OF OHIO.

Earth excavation, $0.648 per cu. yd. (unclassified).
Plain concrete pavement, $2.73 per sq. yd.
Reinforced concrete, $3.02 per sq. yd.
Brick on concrete base, $3.37 per sq. yd.
Bitulithic on concrete base, $4.47 per sq. yd.
Sheet asphalt on concrete base, $3.69 per sq. yd.
Bituminous concrete, $3.25 per sq. yd.
18-inch concrete pipe in place, $3.12 per lin. ft.
18-inch corrugated pipe in place, $2.20 per lin. ft.

STATE OF INDIANA.

Earth excavation, $0.94 per cu. yd.
Concrete pavement (6"x"8), $1.85 per sq. yd. 18 feet wide.
Brick on 4" concrete base, $3.92 per sq. yd.
Bituminous concrete pavement, $3.70 per sq. yd. (approaches a sheet asphalt and is laid with 1½" top course on a 1" binder course with 6" base).
18-inch concrete pipe, $3.21 per ft.
18-inch corrugated pipe, $3.96 per ft.

STATE OF UTAH.

Earth excavation, $0.75 per cu. yd.
Concrete per square yard, $1.30 per sq. yd.

STATE OF NEVADA.

Earth excavation, $0.75 per cu. yd.
Concrete, $1 per sq. yd.
18-inch concrete pipe, $3.50 per lin. ft. in place.

STATE OF NEW HAMPSHIRE.

Earth excavation, $1.25—$1.50 per cu. yd.
Asphalt concrete, $0.90—$2 per cu. yd. termed modified asphalt.
Corrugated pipe, $0.50—$1 per lin. ft. for laying. $1.80 price per lin. ft. of pipe.

STATE OF VIRGINIA.

Earth excavation, $0.80.
Concrete, $3.15.
Sheet asphalt on 1-3-6 base, $3.20.
18-inch corrugated pipe in place, $2.50.

STATE OF VERMONT.

Earth excavation, $1—$1.50 per cu. yd.
Concrete, 6"-8" thick, $2—$2.60 per sq. yd. Covers expense of laying and no other item of construction.

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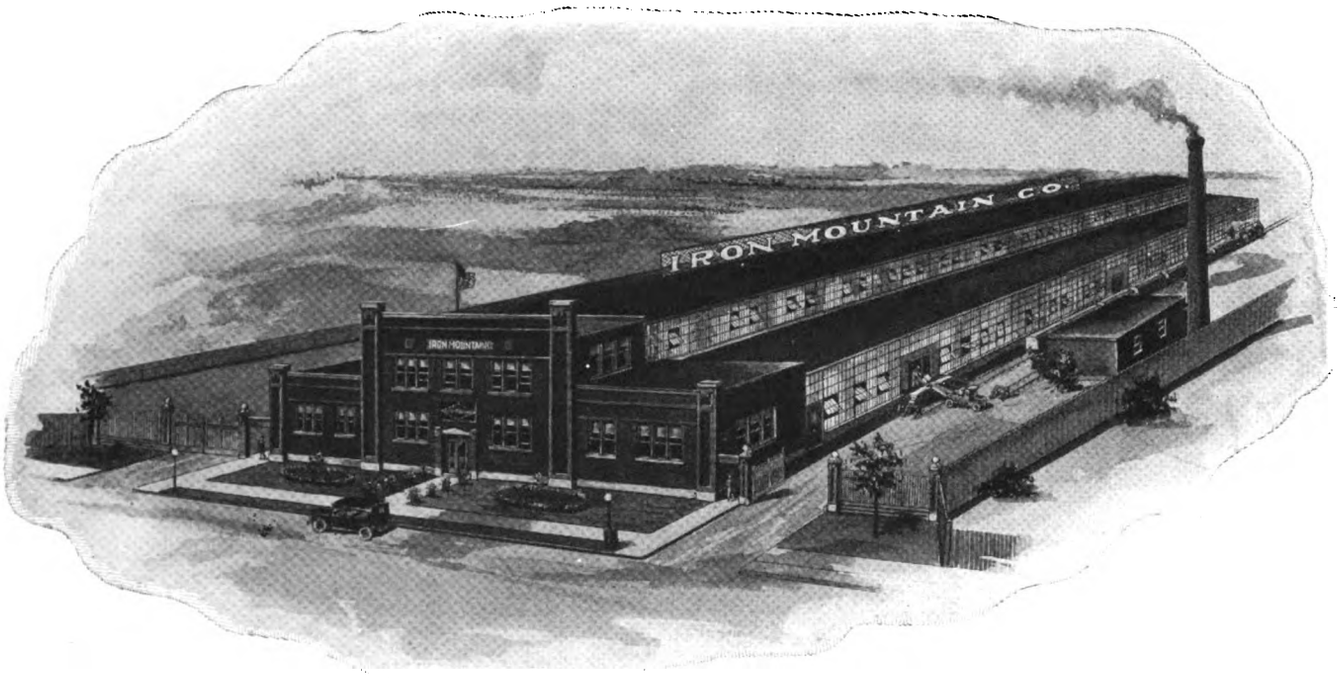

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An exponent of the most enlightened thought and practice of the motor truck industry.

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A Substitute for Shows

AGREEABLE as it may have proved to those whose settled convictions it confirmed, the recent decision of the National Automobile Chamber of Commerce with regard to the discontinuance of its national motor truck shows has not provoked that unanimity of applause that many would have wished to hear. Some evidences of the current disapproval are to be found elsewhere in this issue, others have been gathered from the verbal expressions in private discussions; and the same situation has existed on every occasion when similar action has been either threatened or anticipated in the past. Audible acquiescence in the latest decision is quite general, particularly among those who are urged to approve more by a sense of loyalty than by the dictates of business judgment, but even here there is apparent an undercurrent of dissatisfaction that is not completely quieted even by talk of some vague form of substitute. There seems to be a feeling that, in the absence of something much better, the national motor truck shows have been of great service in keeping the motor wagon industry regularly in the public eye.

There will be no open disposition to quarrel with a decision that is irrevocable and from which there lies no appeal. Consideration will be given, therefore, to an alternative form of exhibition on the need for which there appears to be general agreement, and on the nature of which there will naturally be a great variety of suggestion. Although the shows of the past have not developed their possibilities to the utmost, although they have received only that left-over attention which survived the annual passenger-car shows preceding them, although they have provided only "still" pictures of a very active commercial utility, although they have been poorly located, irregularly given and poorly attended—in spite of all damaging admissions concerning their defects of plan and management they have served a useful purpose if they have done no more than give ocular demonstration of the size and solidarity of a new movement in commerce. They have been propagandists of great convenience and utility. That they have been no more effective is due largely to the unwillingness of the industry to give more than casual consideration to one of its biggest problems.

We have heard no objection to the old show plan that can not be overcome in an alternative method of proper form; we have heard of no worth-while desideratum of the ideal exhibition that can not be incorporated in an alternative method. And we know of no reason why this alternative method should not be comprehensive in plan, practical in operation, and moderate in cost. The product to be exhibited is standard in character and requires no special finish for display purposes, the personnel needed is available in the industry's large body of highly intelligent commercial and mechanical men, the necessary appurtenances can be quickly and cheaply provided, the entire equipment can be made independent of rail transportation difficulties, and the great mass of potential buyers waits anxiously and attentively. The stage setting alone is missing, and this is the great question of plan: what to do, when, and where.

A rough outline of what the ultimate motor truck exhibition will be must be apparent to many men, because every year's experience with motor truck shows has been a very obvious lesson in what to avoid and what to provide. It remains only to fill in the details, to coördinate the many important desiderata, to ignore the visionary, and to make the program complete and faultless. This is big work, too big for any single manufacturer or any group of manufacturers; it is a task for a highly organized and intelligently alert industry.

All talk of saturation of the motor truck market is illusory, and all belief in the understanding and sympathy of the buying public utterly unfounded. Until both have entered the realm of actuality, a practical demonstration of the motor wagon's versatility, economy and efficiency, brought virtually to the door of the buyer and accompanied by unimpeachable evidence in support of the claims made, will be one of the important essentials of the business. And, unless this problem is settled within the near future, it will offer more cause for idle speculation, wasted effort, and lost opportunity and sad regrets than any great question with which this industry has been faced. Like all large industries, this one has great capacity for self-help and self-injury. Its attitude on the problem of motor truck exhibitions will prove a good index to its ability to make an intelligent decision.

Cut Out the Cut-Out

THOSE who have the interests of the motor vehicle industry at heart will welcome with approval, we believe, the recent action of the National Automobile Chamber of Commerce recommending the elimination of cut-outs in the construction of motor trucks. Any policy, calculated to mitigate the growing wave of objection to the rapidly increasing use of motor vehicles and the attendant complications and burdens on the public, should be eagerly embraced by the industry, especially when it involves, as in this case, no mechanical or commercial sacrifice. An industry, which has thrived so handsomely and has been so patiently tolerated by the general public, while placing the benefits of its products in the hands of but a relatively small number of the people, may well consider with favor all means of placating the impatience of the motorless majority. Elimination of the cut-out is but one of many available.

Some years ago the chamber took similar action with respect to passenger-cars and, although no appreciable diminution of the cut-out nuisance has been apparent, due

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to the increasing number of machines and of adolescent, newly rich and other vulgar owners, some good must, in the very nature of things, have resulted from even a partial elimination of this noisy nonessential. The latest decision will have a like effect and it should be given the widest publicity. One must regret, however, that the chamber can not make its action operative through the imposition of a suitable penalty. It is time that the absurd fallacy concerning the alleged need for cut-outs were exploded, and this highly desirable result could scarcely be more effectively attained than by making the chamber's recommendation mandatory. If some such sensible step is not taken, the public may be pardoned for losing patience and legislating the cut-out out of existence.

Fake Production Figures

ABOUT this time every year a great many people evince considerable curiosity concerning the probable production of motor trucks during the next calendar year, as if this industry had already reached the point where its output of vehicles could be forecast with anything better than the wildest guesswork. Were it possible to learn in advance of accomplishment what each factory would produce in the near future, many tender problems connected with production and sale might be brought closer to a solution for there are few sales managers and engineers who would not give a good deal for an accurate forecast of production.

We can not recall a single year in the history of this industry that did not produce at least a score of estimates of coming motor truck output, nor can we remember a single estimate that was more than 75 per centum realized when the facts became known. Most forecasts, we should say, have not been within 50 per centum of actuality, and many of them have disclosed either affected knowledge or deliberate falsehood as the actuating motives. There has not been one that has not made a miserable showing when compared with the truth, and not one that has not been far above reality.

In our opinion, there is no adequate apology for this form of misrepresentation, whether it arise out of ignorance or out of a desire to deceive. Production records, like production estimates, have fallen into such disrepute that no careful person gives them more than passing notice, so that even the basest motive underlying them has been defeated. Many production managers have been seriously misled by these artful statements, the hopes of parts makers have been raised inordinately only to be shattered at great cost, and hundreds and thousands of incautious agents have been lured into an industry in which they had no place and from which they were only too glad to retire after having muddled their territories and erected a barrier of consumer antagonism that has been difficult to remove.

Wild production estimates and fake production records are among the practices of which a fully grown industry has reason to be ashamed. They belong to the oil fields and Kansas land offices of the seventies and eighties and are a disgrace to a trade that prides itself on selling a utility of first-rate importance to buyers of the highest character. Production is a subject about which it were far better to say nothing than to mislead buyer, maker and dealer into a fallacious conception of its magnitude through the most naked dissimulation. If this industry's annual output is not large enough to bear publicity, either in gross or in detail—in our opinion, it has always been—let us cultivate an attitude of strict silence and cease attempting to delude ourselves with stupid guesses and false "records."

Market Opportunities

TO SOME men is given the happy faculty of clear vision and to them also, should their talents be exerted in business, comes most often the much sought prize, success. Yet what passes for vision is some times no more than the wildest passion for guessing and it stops neither at the age of man nor at the distance of doom. A great deal of such dreaming has been wasted on the motor truck industry to the amusement or profit of the guessers and to the discomfiture and cost of the credulous. Of both classes of persons there have been a great many, as in all young and rapidly developing trades.

The potential market for motor trucks, whether in the country at large, in selected portions of it or in selected industries, has been the center of the most extravagant speculation on the part of those who, because of their position or supposed knowledge, are expected to speak authoritatively on a subject with respect to which gross ignorance prevails. We are ready, as always, to admit the utility, and even the expediency, of "boom" statistics, but we have never been convinced that the resultant misconceptions do not more than counterbalance the good effects. We have seen many producers and sellers deluded, some to the point of financial ruin, by the baseless, yet apparently reliable and sincere, estimates of market possibilities which have found such ready acceptance in this industry.

We hope no one cherishes the illusion that the extent of this trade's market can be accurately determined, for such an accomplishment, however imperative and valuable, is, we need scarcely remark, beyond the pale of possibility. It seems advisable, however, that some attempt should be made to estimate as closely as possible just what this trade's opportunities are or may be. Many impatient investigators have dabbled in meager statistics and brought forth an impressive array of facts and fancies which has been able, from sheer volume alone, to bewilder even the most cautious. Unable to discover the truth these delvers after ready-made knowledge have not hesitated to invent it, and we pay every day the price of our acceptance and approval of such methods. There is apparent everywhere, nevertheless, growing dissatisfaction with the practices of those who do not scruple to delude when private interests so dictate, and there is likewise a growing realization that the highly important work of estimating market possibilities should be left in the hands of those who will discharge with conscientious care the obligation that rests upon them.

The trade should not be content with any poorly conceived notion of what intelligent research is. It should insist upon a carefully thought out program of investigation, planned and executed by experts who will have no interest in seeking anything but the truth so far as that may be ascertainable. From such hands it is quite possible that within a short time we should know something of genuine value concerning the opportunities in this industry. In any event, we should certainly be able to find at least a dozen men who would speak of market possibilities in intelligent, understandable and similar terms.

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You Need This Service

THE Power Wagon Reference Book for 1920 contains most elaborate specifications of motor trucks, trailers and farm tractors ever published, presented in 92 pages. Specifications are kept accurately up-to-date in each issue of Power Wagon. Blue print plan and elevation views of the principal models of trucks, trailers and tractors are shown in 134 pages, printed in color. The 500 pages of text matter afford a vast volume and great range of information to all who are interested in the production, sale and application of trucks, trailers and tractors. For the technical man there is technical data. For the reader not so keen for technical information there is a great mass of enlightening text matter, which will enable him to trace the economy of trucks, tractors and trailers. A particularly valuable feature of the book is the section which presents 42 detailed studies of the application of motor trucks in as many industrial services. The tables supplied in connection with these 42 studies of motor truck application present the most valuable, painstaking and accurate analyses of market ever presented to the trade.

What dealers and distributors say:

NEVER SAW ANYTHING TO COMPARE WITH IT—We want to commend you upon the completeness of the "Reference Book." In all our experience in the motor truck business we have never seen anything that can compare with it. It is of the greatest assistance.—H. B. O'DELL, Atlanta, Ga. "Packard" Dealer.

CONSTANTLY ON THEIR DESK—We cannot understand how anyone in the automobile business would be without the "Reference Book" constantly on his desk.—MULFORD, HAAS CO., Brooklyn N. Y. "Ford" dealer.

INVALUABLE AS DEALERS' GUIDE—It is the best book of its kind published and is thorough in every respect. As a dealers' guide it is invaluable. We keep it close at hand at all times for reference, and will recommend it highly to all interested in transportation problems. — INTERNATIONAL HARVESTER CO. OF AMERICA, Helena, Mont.

THOROUGH IN EVERY PARTICULAR—You are to be commended for thorough and painstaking effort in producing this valuable book.—TULSA MOTOR CAR CO., Tulsa, Okla. "Pierce-Arrow" dealer.

WOULD NOT TAKE $25.00 FOR IT—We would not take $25 for it if we were unable to get another copy. No doubt other subscribers are as well satisfied as ourselves.—SHAW MOTOR CO., Salt Lake City, Utah. "F. W. D." dealer.

AN ORDER FOR TEN—If you will send us ten order cards for the "Reference Book" we will mail them to our dealers with the suggestion that they mail them to you with their check covering the service.—FRANK WATERHOUSE & CO., Seattle, Wash. "Signal," "Kelly" and "Denby" dealer.

A TREMENDOUS HELP—The "Reference Book" is a tremendous help to us. It is the best publication of its kind ever issued by any publisher.—PACKARD MOTOR CAR CO. of N. Y., Hartford, Conn.

WERE NOT CHEATED—We paid about one hundredth of its value for our salesmen. We cannot say more.—GIANT TRUCK SALES CO., Los Angeles, Cal. "Giant" dealer.

INCOMPARABLE—To say it is a masterpiece would be mild; it is simply incomparable.—SEARS AUTOMOBILE CO., Des Moines, Ia.

COMPREHENSIVE AND USEFUL—The "Reference Book" is the best, most comprehensive and useful volume that it has been our good fortune to see on the subject of motor trucks.—SOUTHERN MOTOR CO., Louisville, Ky. "Packard" dealer.

THE Power Wagon Reference Book is published annually, 9x12 inches in size, about 900 pages, bound in heavy buckram. It is illustrated with over 1000 drawings and photographs.

The Power Wagon service comprises the Reference Book and 12 issues of Power Wagon. In the monthly issues of Power Wagon you will find the latest trade news and truck specifications up to the minute and in convenient form. Subscriptions of present subscribers to Power Wagon are extended one year upon receipt of Reference Book order.

This service sells for $5.00 here and $6.00 abroad. It is a sales service that is not equaled in the automotive industry for completeness and thoroughness.

Mail your check today.

Power Wagon Publishing Company
544 Lake Shore Drive Chicago

What manufacturers say:

TRULY A REFERENCE BOOK—It is truly a Reference Book and it appears to fill in a very satisfactory manner the needs along this line. It is the first real attempt that the writer has come across to group all of this information together in a form to be readily accessible.
Francis W. Davis, Engineer,
Pierce Arrow Motor Car Co.

ENGINEERS APPRECIATE IT—The book is nothing short of pioneer triumph. I myself have had the pleasure of hearing many expressions of appreciation for it from engineers in various localities.
W. H. Weber, Sales Engineer,
Claudel Carburetors, Detroit.

BEST THING OUT—Our chief engineer and production manager, Mr. Pierce, uses it nearly every day—and says "it is the best thing out." We couldn't invest the price in anything that would be of more value to us.
Diamond T Motor Car Co.

CONVENIENT FORM—We have recently received a copy of your Reference Book for 1919. It is a very fine piece of work, and unquestionably contains a great deal of information that has never been offered the trade in so convenient a method.
Fruehauf Trailer Company.

AFTER ORDERING TEN COPIES—Under separate cover we are sending an order for two additional copies of the Power Wagon Reference Book. Please send these to us as quickly as possible. We find this a most valuable reference volume.
Service Motor Truck Co.

MORE THAN THEY EXPECTED—This Reference Book apparently contains a great deal more information than we had hoped for, and we take this opportunity to congratulate your company on compiling so much very essential truck data.
Maxwell Motor Sales Corp.

THEY RECOMMEND IT—This is the most attractive book of its kind that has ever come to our attention. You have our permission to state that we recommend it to our dealers.
Winther Motor Truck Co.

AUTHENTIC BASIS OF COMPARISON—This book contains very valuable data bearing upon the scope and purpose of the motor truck industry. It affords an authentic basis in comparing the various makes of motor trucks on the market.
Standard Motor Truck Co.

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National Solons Treat

(Continued from page 17.)

the special taxes upon motor vehicles and tires was a keen disappointment to many motor truck men who had counted upon a revision and readjustment of tax burdens. As one ray of light, however, in the gloom was the decision of congress that no attempt should be made to raise funds for a cash bonus for ex-service men by means of a "general sales tax." The first suggestion had been for a tax upon every turnover from producer to ultimate consumer, but this was later modified to a tax of 1 per centum upon final retail sales. Any levy of this character would, however, add to routine bookkeeping and prove an inconvenience as well as an expense to agents or sales firms handling motor trucks and accessories and consequently many a sigh of relief was breathed when it was definitely decided to abandon any attempt to raise revenue by this means.

Congress has to it scredit a considerable amount of constructive legislation that indirectly will benefit the trade. In this category is the oil leasing law, which should encourage the production of larger quantities of petroleum products. Likewise the act authorizing the formation of corporations to finance American export trade. In the closing days of the session the national legislature approved a measure that will increase the salaries of our underpaid postal employes and will, it is hoped, proportionately remedy the deficiencies of the postal service from which motor truck tradesmen, in common with other business men, have long suffered. Passage of the army reorganization act, providing for a peace-time army of 297,000 officers and men, a national guard and a reserve force, will have the effect of indicating to the trade just what may be expected from the military establishment as a market for motor trucks, equipment and supplies. In like manner the lately enacted merchant marine act and the railroad legislation serve to define the limitations of transportation utilities that are, at one and the same time, servitors and competitors of the motor truck interests.

Grocers Champion Trucks

The Southern Wholesale Grocers' Association at its recent annual convention unanimously adopted the following resolution for the extended use of motor trucks as a means of speeding up delivery and reducing costs:

Whereas, It has been clearly demonstrated that there are many advantages, economies and conveniences to be derived from a proper use of the motor truck as a means of transportation, particularly as relates to the handling of less than carload merchandise package freight, and

Whereas, There is a growing need for additional means of transportation to efficiently and expeditiously transport the rapidly increasing volume of this class of freight. Therefore, be it

Resolved, By the Southern Wholesale Grocers' Association in convention assembled that we approve and hereby offer encouragement to those agencies which are endeavoring to promote along safe, sound and economical lines the use of the motor truck in transportation service.

Eyler Heads Service Sales Promotion

G. J. Eyler has been appointed sales promotion manager of the Service Motor Truck Company. Mr. Eyler was formerly of the Delco Light Company, of Dayton, Ohio.

Metal Wheel Association Is For Standardization

AXLES AND HUBS TOPICS OF CONVENTION

The Automotive Metal Wheel Association met in Atlantic City June 7 and 8 to discuss standardization and hold its annual business meeting and election of officers.

The association was formed in 1918 to obtain increased production and uniformity of product. It is composed of manufacturers of axles and metal wheels for passenger cars and motor trucks.

Those who have held office during the past year and were elected for the coming years are: President, R. H. West; secretary and treasurer, G. L. Lavery, both of the West Steel Castings Company, Cleveland, and vice-president, R. P. Flower, of the Standard Steel Castings Company, Cleveland. The work of the association is performed by the following four committees: Wire wheel chairman, O. J. Rohde, of the Wire Wheel Corporation of America; built-up wheel chairman, H. A. Coffin; cast wheel, George E. Walther, Dayton Steel Foundry; standards, R. J. Burrows, Clark Equipment Company. The three officers with the chairmen of the four committees comprise the executive committee.

The first day was devoted to reading of papers and discussion of standardization. J. E. Schipper gave a talk on "Hub Standardization." J. F. Creamer, of Firestone Steel Products Company, read a paper on "Rim Standardization on Truck Pneumatic Wheels," and O. J. Rohde, vice-president and general manager of the Wire Wheel Corporation of America, read a paper entitled "The Standardization of Axles, Bearings, Hubs, Brake Drums, etc., for Passenger Cars."

A committee with the assistance of R. S. Burnett, chairman of the Standards Committee of the S. A. E., was appointed to prepare a questionnaire which is to be sent to the manufacturers of passenger cars, motor trucks, axles and bearings. This questionnaire relates to front axle load ratings for 5-, 3½-, 2½- and 1½-ton motor trucks; solid tire sizes for front wheels used on motor trucks of the four load ratings. Maximum load for front tires, pneumatic tire ratings and size, axle spindle design and hub design. A similar questionnaire will be prepared relative to passenger cars. The purpose of this work will be to determine if the tentative standards selected by the committee are acceptable to the various manufacturers interested, and if not, to obtain suggestions as to proper standards.

The greatest difficulty to be overcome in standardizing wheels is that of standard axle design. Each axle manufacturer has his own design for the various load ratings he has chosen as a standard. To obtain uniformity in wheels it will be necessary for the axle manufacturers to agree upon a standard design of axle for each size required.

Another obstacle to be overcome is that of obtaining ball and roller bearings that are interchangeable.

As the question of obtaining complete standardization is so great, it was decided to consider that of front wheels only for the time being. When this has been accomplished it will prove the benefit derived by all concerned and make further progress more easy.

When axle design has been standardized and ball and roller bearings are made interchangeable, it will be possible to make wheels of standard dimensions. Standard front wheel hub design requires uniform spindle diameters, equal spacing of bearings and a standard method of mounting the wheel on the spindle, each factor being influenced by axle design. As ball and roller bearings are not interchangeable, they also affect hub design. Other dimensions vital to wheel standardization are hub flange, hub barrel, bolt circle and spoke width.

The British have a Manufacturers' Association of Standards that coöperates with the European manufacturers. A similar body has recently been formed in the States called the American Engineers' Standards Committee. It is the purpose of the Automotive Metal Wheel Association to coöperate with the standards committee of the S. A. E. and the I. A. E. of England and in this way greatly improve conditions here and abroad.

The benefits derived from standardizing wheels and axles has been estimaed as running into millions of dollars. Both axle and wheel makers will be able to reduce the number of their models, which will reduce their investment in tools and increase production. The decreased number of parts will enable the dealer and distributer to stock spare parts which is impossible now. Decreasing the production cost and the investment in tools, will lower the price to the car and motor truck builder. In this way the ultimate user will also be benefited.

The meeting proved to be a great success. Representatives of axle manufacturers attending the meeting promised coöperation.

6,300 Yards Materials on One Mile Road

The average mile of road contains 4,500 cubic yards of excavation and 1,800 cubic yards of surfacing material. Nine cubic yards of surfacing material on an average haul is a day's work. Taking these figures into consideration, and using them as a basis, the construction of one mile of road is a small matter, but when it is multiplied by the total road mileage, the task of road building looms larger.

It has been estimated by one authority that it will take 30 teams 14 days to grade and surface one mile of average road; at the same ratio, it will take 30 teams 8½ months, which is the average contracting year, to grade and surface 16 miles of average road, or 4,687 teams 8½ months to grade and surface 2,500 miles of road under contract.

Dependable Truck Increases Capital

Stockholders of the Dependable Truck & Tractor Company, Galesburg, Illinois, have increased the common stock from $750,000 to $1,250,000, the new stock to be sold from time to time to take care of expanding business needs. Officers were elected as follows: President and general manager, C. G. Morse; vice president, A. E. Patchin; secretary-treasurer, J. J. Welsh. Reports showed orders sufficient on hand to ensure capacity production for the next year.

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What the Owner Expects in Service

By E. W. TURLEY
Manager, Service Department, Wilson & Company

ENORMOUS conservation may be effected by owner and manufacturer working together more closely. We believe the manufacturer and owner owe it to the public to effect every economy possible for the benefit of the public.

The biggest problem before us to-day is one of an educational nature. The foundation on which this educational work must be based is the accurate knowledge of cost per unit mile. The manufacturer and not the owner should do the educational work.

Most automobile salesmen that I have met are spreading more destructive propaganda in their over-enthusiasm than the owner and service department combined can offset, without working many times harder than the salesmen did to establish the wrong attitude originally. Too many trucks have been sold wrong. This and the rapidity with which the industry has grown probably account for the lack of knowledge required to operate motor trucks efficiently. The remedy for this condition is education.

Lack of educational work explains why many of our motor trucks are being operated so inefficiently. It is why we are not increasing the number of machines we own as rapidly as many think we should. It is why, since January 1, 1920, orders have gone through for replacing over thirty 1-ton and 2-ton motor trucks with horses and is why we are purchasing wagons and horses for additional business in many cities where most automobile salesmen think we should put on motor trucks.

THE manufacturer asks, "Why do not owners more fully protect and conserve their investment in motor equipment?"

The owner was sold a fool-proof motor truck that would run for 150,000 to 200,000 miles with just a man to steer it, load and unload it for a total cost of $6 to $8 a day. Occasionally some salesman had the courage to say that it would cost $10 to $15 to operate his 2-ton motor truck. The owner was sold a machine that could carry a bigger overload, need less repairs and could be operated cheaper than any other motor truck on the market. The owner had no simple check on the cost of his motor truck. He did not know the possibilities of efficient operation.

Compare the locomotive with the motor truck. The parts are more massive. They are not fitted as closely as on a motor truck. Compare the training of the engineer to the training and experience of the chauffeur. Compare the roadbed over which the locomotive travels to the road over which the automobile travels. At the end of each run over a division of 125 to 200 miles, the locomotive goes into the roundhouse, where several hostlers inspect it.

What does the owner say if you suggest an inspection after a motor truck has traveled 2,000 miles? He says it is no good. Why? Because the salesman sold him wrong. Parts have to be replaced because lubrication was neglected and the owner is dissatisfied. Does the salesman resell the owner or satisfy him? No! It is generally the service man that resells the motor truck and now tries to tell the owner what the salesman should have told him originally. I have seen parts replaced at the end of two months because of no oil. The parts were replaced at the manufacturer's expense. Why? Well, when our local manager showed the manufacturer's local sales manager the letter he had received from Wilson & Co.'s home office about his neglecting the motor truck, the motor truck sales manager patted him on the back and told him the parts were defective and canceled the charge. This was no exception. The explanation I received was that it was not the best policy to tell our man the truth, as it might prevent future sales.

WHEN the owner can operate his motor trucks at the minimum cost, he will use more of them. He will then not be buying so many horses or replacing motor trucks with horses. There is a field for horses, electrics, gasolene trucks, boats and railroads. The question is to define the limits of the field in which each is the most efficient. We try to use that hauling unit that gives our customer the maximum service at the minimum cost. The demand for motor trucks has been greater than the supply. Any manufacturer has needed to make but little or no effort to sell his production. As long as this condition prevails many manufacturers will not be interested in educational work or motor truck efficiency. We do not know how long the present relation between supply and demand will continue.

Only the manufacturers who intend to stay in business and build for the future will be interested in educational work and motor truck efficiency. Between 1909 and 1919—555 manufacturers entered the field. Of the 478 who entered prior to 1918, 48 per centum lasted less than one year. Of those in business in 1913, 58 per centum discontinued before the war. Do you suppose the owner of the motor trucks whose manufacturers went out of business can operate these orphans economically for the six or eight years or longer?

There is much food in these figures for serious consideration by every owner and prospect as well as for the present-day manufacturer. Efficient operation will create a bigger demand for motor trucks, but the educational work must be done first.

The service department is the most important department of the manufacturer with which we come in contact. There are a few concerns who are selling trucking service and coöperation. The others are selling motor trucks. We want to buy trucking service and coöperation because the more we analyze accurate costs the more we see that trucking service and cooperation give us our lowest cost per unit mile.

"Service" is the most abused word in the motor truck vocabulary. By service I do not mean something for nothing, which seems to be the usual understanding, caused largely, I believe, by the over-enthusiasm of the salesman and his pre-sale promises.

There are three things to mention in connection with service:

1. Don't sell a man a motor truck for use 500 or more miles away from any source of repair parts if he can buy another machine that has a few repair parts available locally.

2. We want to be able to buy parts when we want them and we want to buy them within a few miles of the motor truck's headquarters.

3. Coöperation.

I will not attempt to say how much weight should be given to these three divisions, but I do not believe we would ever specify a make that did not meet No. *1.* I should also endeavor to get a motor truck having a few of each part in the local stockroom. If several manufacturers could fill No. *1* and No. *2* then the manufacturer that could come the closest to meeting No. *3* 100 per centum would be the one that would receive the order for the new truck.

We are now ready to consider No. *3*—Coöperation.

THE manufacturer should have harmony and unity within. The service department should not have to undo the damage done by the salesman. The engineers should not design something requiring several hours for the repair man to get at in order to do fifteen minutes' work. In other words, the engineering department could assist the owner greatly by keeping the word "accessibility" in front of him at all times.

Motor trucks to be operated efficiently must be kept on the road every day and be kept moving the greater part of the time. This means that repairs must be made quickly. For a man having more than a few machines we consider the use of replacement units and accessibility to be the biggest features in efficient motor truck operation. The present motor truck design is so far ahead of the efficiency with which it is used that the manufacturer could dispense with his engineers for a while and send the engineers out as instructors and they could do some valuable work. I believe if some of the engineers would spend a little time in some of the owners' repair shops they would design motor trucks somewhat differently.

Lately I have been trying to wreck or develop some objectionable feature in an oil hydraulic transmission. This transmis-

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sion eliminates the clutch and shifting of gears. It can be built for less money than any three-speed transmission on the market. It will pay Wilson & Co. to discard transmission and clutches and use this on all motor trucks. I believe we will do this as soon as these new transmissions are in production. Several machinists developed this. Why has not the manufacturer replaced the clutch and gear shifting with something simpler, that would not stress the entire mechanism as much as the present type of clutch and transmission?

Why does not the manufacturer develop a more fool-proof lubrication system for the entire motor truck? Some factories tell me that between 75 and 80 per centum of the parts replaced show abnormal wear on account of lack of lubrication.

Why does not the manufacturer develop his carbureter, for example, on a 1-ton motor truck? We have obtained a 70 per centum increase in mileage per gallon of gasolene by taking off the carbureter put on by the manufacturer and substituting another. This statement is based on an actual test covering some three months.

WHY do some manufacturers change the design of the mottor truck so frequently? I was very much interested in observing a motor truck at the Chicago show last winter which had been in production for over six years with apparently no appreciable change being made in the design. The branch handling this motor truck could afford to keep more of the same part than if this motor truck had been changed in design several times. Also the owner could keep a small amount of money tied up in a few parts.

It seems to me that the service department is in the best position to do educational work and that the salesman should assist by laying the proper foundation instead of the wrong foundation as now. The manufacturer would then be in a position to do constructive educational work, which in conjunction with the educational work of the owner, would enable the owner to operate his motor truck efficiently and thereby create a demand, we believe even in times of financial depression.

Why not sell the idea of knowing costs accurately? A simple, inexpensive record, such as the National Standard Cost System that permits of easy and quick analysis would be of great assistance.

One of the greatest difficulties I have is to get the people in immediate charge of the handling of the motor trucks to see the necessity of daily, systematic lubrication and tightening up.

The salesman is the biggest obstacle in the promoting of motor truck efficiency that we have to contend with because of his destructive propaganda as a result of his over-enthusiasm. Why do salesmen tell our branch-house managers that, if they would purchase their particular truck, they could overload their 2-ton machines from 500 to 4,000 pounds? Why do salesmen tell us that we can operate their particular motor truck for a figure ridiculously low?

Up to about 1913 the salesman tried to sell the largest motor truck that his firm built. Then a few concerns started analyzing the prospect's delivery problem before making any recommendations. Several concerns are doing this to-day. It has been my pleasure to meet a couple of salesmen within the last year who had the courage of their convictions and the interest of the owner at heart to such an extent that they recommended horses instead of motor trucks, in spite of the fact that the prospect was willing to purchase machines. These salesmen gave the prospect the benefit of their vast resources of information as to the actual cost under various conditions. There are extremely few such salesmen.

Within the past few months the vice-president of a large concern, together with his local manager, called upon us and tried to talk us into thinking that we should buy 5-ton instead of 2-ton motor trucks, without so much as taking a glance at our loading dock or asking any questions about the work we were doing.

Why does a salesman tell our branch-house managers that all they have to do with their motor trucks is to put a man on them to steer them, load and unload them? Why does not the salesman tell them that there are certain parts that should be lubricated daily and that there are many parts that will loosen up as the motor truck travels over our rough roads and when these parts become loose they should be tightened up instead of waiting until the parts drop off in the street and the machine refuses to go? Why does the salesman tell our branch-house managers that his product is more fool proof and needs less attention than small steam engines and ice machines that we have around at our various places and on which we have a stationary engineer?

WHEN the branch-house manager has trouble with his motor truck he calls upon the service department and not the salesman to remedy it. When the service department informs him that he should oil his motor truck and tighten up a few parts on it our manager begins to wonder why two divisions of a manufacturer apparently do not agree on motor truck operation. After a while and eventually the branch-house manager becomes convinced that the service men know more about motor trucks than salesmen.

I have been told that a good salesman can sell anything from a piece of blue sky to a pair of shoes, and I believe it. Why do salesmen make so many pre-sale promises as to all they are going to do to take care of the motor truck and to keep it running?

I maintain that the manufacturer knows more about his product than the owner, therefore he is in a position to show the owner how to operate with maximum efficiency.

One way that we have of keeping in touch with the condition of our machines is through the medium of inspection reports sent to us once a month, giving the manufacturer's recommendations as to what should be done to our motor truck to make it operate more efficiently. Some manufacturers will not sell these inspection reports to us or give them to us under any condition. They take the attitude that they have sold us a motor truck and are no longer interested. I do not blame them for being no longer interested, for they know that once we have found out how they do business we will not buy any more motor trucks from them if there are any other makes in town. There are enough concerns selling trucking service and coöperation to enable us to buy what we want, where we want and when we want it.

A service department can render valuable assistance in educating mechanics so as to have an available supply for the fleet owners. Where the owner does not have enough motor trucks to maintain his own repair shop he should be in position to send the machine to the repair shop of the manufacturer's local representative and have the work done as conscientiously as it would be done in his own shop. The manufacturer can assist the owner by educating him in the most efficient maintenance methods for his particular needs.

I OFTEN wonder if some service stations ever try to repair a motor truck with the idea of economical service to the owner. Do you consider the cost of the motor truck to the owner for every hour it is not working on account of being in your shop? How many hold a motor truck up for three or four days working on the engine when in a half day you could take the old engine out and put in a re-built engine? Get your engineer to realize the money lost because he does not consider the time required to get an engine in and out of a chassis he designs. The basic principle involved here applies to every unit on the motor truck.

We can completely rebuild some of our 2-ton motor trucks within 10 hours by using replacement units, and I dare say at less cost than any service man here can do the job without using replacement units. We could do it still cheaper if we could get more coöperation from the engineer who thinks the mechanics can tell him nothing about motor truck designing. I often wonder how many engineers consider the cost of repairs when they design a motor truck.

The service department can render valuable assistance and coöperation by teaching the owner practical, efficient maintenance methods suitable for his particular needs.

The drivers are extremely important factors in the successful operation of motor trucks, but I have seen many cases where the owner did not give the driver time to do what the driver knew should be done. There are many cases where the owner does not assist the driver to do what he knows should be done. This condition will remain unchanged until the proper educational work has been done. I believe that the manufacturer might educate the owner as to the importance of the driver operating his motor truck economically.

Many manufacturers are doing great constructive work by conducting schools for the education of the drivers. Many owners seem to want to pay their chauffeurs the same money as they used to pay their teamsters. The best chauffeurs that we have ever had were our old teamsters whom we taught to operate motor trucks.

We feel that, on account of the increas-

(Continued on page 70.)

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Offsetting Farm Labor Shortage

By R. S. WILSON

Manager Truck Tire Department, Goodyear Tire & Rubber Company

CONTINUED labor shortage has forced the grain belt to consider ways and means of producing crops with fewer hands. Already many labor-saving devices and methods have been adopted. Mindful of precious hours spent on the road, farmers in the grain belt are especially interested in any means that will enable them to get their hauling done quicker, so that they can devote more time to farming.

A large number of them live on the 4,000-mile route taken in September and October, 1919, by seventeen motor trucks on the National Farm Development Tour. Many more have seen the moving pictures of the tour exhibited this winter at the granges, short courses, and demonstration meetings. In either case, the visual impression left was that the motor truck offers help with which they can offset much of the labor shortage.

This spring the idea is recurring more frequently as the busier season approaches, as time again becomes the most valuable possession of the farm. He is frankly interested in the use of a motor truck on his farm. In many cases, he has anticipated by years the practical development of the motor truck for farm hauling by putting a makeshift body on his passenger car chassis. He realized that pneumatic tires gave the car speed-capacity without injuring the load he was carrying. He was able to make the trip to town without losing the whole day for other work. He blazed the trail, and American enterprise responded characteristically with proper equipment for the heavier motorized vehicle—the motor truck—in shape of special farm bodies and the perfected cord pneumatic tire.

HE is now sure that the motor truck is adequately equipped for farm service, but he is investigating to confirm his need of a motor truck on his farm this year. He wants someone who is competent to analyze his hauling conditions to show why it will be less profitable to continue using horses or mules or more profitable to invest in a motor truck. Frequently he has found the motor truck dealer in his neighborhood competent to make a thorough investigation of his hauling and honest in his recommendations.

The best way to indicate how the good motor truck dealer makes the survey of a farmer's hauling conditions is to follow one as he makes it. We will take the problem presented to a distributer in a small town on the Illinois prairie. A farmer living four or five miles out came in and wanted to be shown the facts about his transportation. The dealer went about the problem in some such fashion as this:

He showed that the analysis of the farmer's hauling was really a very simple thing, that fundamentally four conditions determine the most efficient means. Those conditions are the roads, the loads, the speeds required, and the maximum daily mileage to be covered. To get the data for this particular analysis, he asked the farmer these questions:

What kind of loads do you have to haul? Are they light or heavy as a rule? Compact or bulky? Perishable, shrinkable, or breakable? Do they suffer on long hot trips to town? How much tonnage do you have to haul in a year's time?

Over what kind of roads do you haul?

Gasolene saving labor.

Concrete? Macadam? Clay? Gravel? Gumbo? Improved or unimproved? At what seasons of the year is hauling most difficult? Why? How are the roads and lanes over your place? How much of your hauling is on the road, and how much across your farm? What is the average length of your hauls across your farm?

How fast can you haul now? How far are you from this town? What other towns are near? How far are they from your place? Would they be good markets if you could haul to them? Do any of your crops need quick transit, either on account of spoilage, or on account of the market?

About how much of your time is spent in hauling? Does it ever interfere with farming?

After the farmer had answered these questions, the dealer knew most of the facts he needed to come to the most intelligent conclusion as to the most efficient hauling means for this particular farm.

He found that for the most part, the farmer hauled heavy, compact loads. As his was a typical small grain farm, he had a few shrinkable or perishable loads. He had about the normal amount of tonnage for a farm of 150 acres, fairly well distributed throughout the year. The peaks came when fertilizer had to be hauled from the railroad in the spring, and when the wheat was marketed. The loads required a motor truck not because of perishability but because of the tonnage to be moved in a short time.

The four miles to town was over just a fair dirt road, which became difficult of passage during the rainy and slushy seasons. He had a considerable amount of road hauling to do at these seasons, and the rest of the year, too. There were the usual errands having to do with supplies of food and coal. Besides the tractor required supplies regularly. In addition, there was the constant hauling around the farm—tools, hands, fuel, and supplies for the tractor, and so on.

Finally, very plainly his loads and roads showed need for a motor truck running on the proper equipment.

HE could not haul faster than four miles an hour with the teams, so that the trip to town usually consumed the better part of half a day. Not many of his loads were perishable, but he had frequently noted the possible profits he might have taken, had he possessed a faster hauling means to market his crops in the more distant markets. As it was, several teams and men were required at harvest time, and they were slow.

Faster transportation all through the year, and particularly when crops were to be moved, together with dependable hauling regardless of road conditions, were desirable improvements. If he could manage to spend less time in hauling and more time in tilling, he believed that he could increase the productivity of his farm, and his profits. The analysis showed both the dealer and the farmer that team hauling was not enabling maximum efficiency. It was slowing up farming and cutting down the profits of timely marketing. When quickness was demanded, it was slow. When time was needed on the farm, time was wasted on the road.

However, he was somewhat dubious about a motor truck because of the dissatisfaction of his neighbor after using a solid-tired machine for a year. It was practically useless for any hauling around the farm, off of the hard roads, stalling in the soft and loose ground. It was particularly disappointing at threshing time when it proved to be incapable of hauling from the thresher. Wagons had to be used to get the grain off the field. Then, for about three months of the year, the motor truck lay idle in the shed, because the road was slippery with mud or choked with snow. Its solid tires lacked the traction necessary for sure progress. Finally, they limited the activity, the work-ability, of the motor truck by their lack of cushioning. When hastened over the road for any length of

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time, the constant jarring caused damage and necessitated repairs.

The dealers pointed out that few of these failures were due to the motor truck itself, but were mostly due to the type of tire on which it traveled. He showed that in most cases, farmers are getting the best use of motor trucks on pneumatic tires, chiefly because they supply traction, cushioning and activity which farm machines need on the road, and across the fields. And the dealer proved his statements by reviewing the performance of pneumatic-tired motor trucks on typical grain farms.

ALL through the grain belt, farmers are getting the most work out of motor trucks by having them fitted with equipment suitable to farm hauling. Take the case of E. J. Lenling, who has a fair-sized farm near Groton, South Dakota. His motor truck has a double-board box body (some grain farmers use three-board), a storm cab, and pneumatic tires. His machine is used for every hauling job around the farm and on the roads that teams have done. It does each job quite reliably without stalling, and so quickens and eases the work that the men show better spirit on the truck than on the wagons. His farm is located about five miles from town, five miles of average dirt road. Yet his motor truck makes the distance in twenty minutes, while teams take an hour and twenty minutes. He hauls three or four loads to the elevator a day, and could haul six, were sufficient loading facilities provided. The wagons can make only two trips a day, so that the motor truck really replaces two teams and two drivers. Mr. Lenling figures that this releases eight acres more for wheat.

His motor truck is just as effective for on-the-farm hauling. Hitched to the manure-spreader, it hauls this implement all over the farm. At harvest time, the motor truck takes the wheat direct—without reloading—from the thresher to the elevator or the bins, and brings back coal. He hauls hay on an ordinary rack, from the fields, using the motor truck instead of horses. His machine hauls stock to town, hoists hay into the loft, brings supplies and provisions from town. In a word, Mr. Lenling's motor truck has the proper equipment—body, cab, tires—for all-weather, all-purpose, off-the-road and on-the-road hauling.

"I CAN either haul my hogs," states George Gebhart, of Stonington, Illinois, to market six miles away or sixteen miles away, but I can get $1.00 more a hundredweight at the latter place. That is why I got my motor truck on pneumatic tires. The shrinkage is no more than for four miles with teams." Mr. Gebhart is a typical grain farmer. He has 125 tons to haul every year. He says that it would be difficult to handle this amount of product with teams because they are too slow, or with a solid-tired motor truck because he could not go into the fields with it.

At threshing time, his power wagon on pneumatics goes right up to the thresher, loads 60 bushels of wheat or 90 bushels of oats and hauls it to the elevator in 20 minutes time. Teams take an hour and a half to make the same trip and haul less. It is apparent how team hauling slows up threshing, and makes it cost considerably more. Mr. Gebhart says that his hauling has been so quickened that he has extra time to do grain hauling for some of his neighbors when their teams are too slow. In trading work, he gets two men in exchange for his motor truck and it replaces three to five teams during corn shelling time. Many of his hauling contracts would be impossible to secure if he used teams.

"Pneumatic tires," Mr. Gebhart says, "are much superior to solid tires for my kind of work. A motor truck on solids that tried to follow in the tracks of my pneumatics got stuck and had to be pulled out. I can make 21 miles an hour, which is six or seven miles faster than any solid-tired machine can make around here."

Using a motor truck running on the same equipment, Arthur Witt, 480 acres, R. R. No. 1, Neola, Iowa, speeded up harvesting for himself and two neighbors with farms of 250 and 300 acres each, by hauling wheat and coal for the threshing machines.

Two years ago when L. C. Nichols threshed for farmers around Blue Mound, Illinois, they supplied teams to haul the grain to the elevator. Last season, however, Mr. Nichols hauled the grain in his own motor truck, equipped with a box body and pneumatic tires. He increased the returns from his work. The farmers for whom he threshed saved the difference between the motor truck hire and the cost of three, four, and sometimes more teams, their wagons and their drivers. His motor truck made a two and one-half mile trip in ten minutes, as against three-quarters of an hour for a team. With the separator delivering from 80 to 100 bushels of wheat per hour, his motor truck and two box bodies, one being filled while the other was away with a load, carried the grain as fast as it was threshed. In the hummocky fields, the loose soil and smooth stubble packed under the big pneumatics were sharp-edged solid tires would have stalled and spun.

Thomas L. Jarrett owns a 4,000-acre farm eight miles out of Springfield, Illinois, Two of his largest pay crops are livestock and grain.

His one and a half ton motor truck equipped with pneumatic tires hauls from 60 to 112 bushels of wheat at a load from farm to town in an hour and a half, as against former records of 50 to 55 bushels per load by team, and only two trips in a farming day. In hauling grain, Mr. Jarrett says that his records show his motor truck does the work of six teams—a saving of five teamsters, 12 horses, and 30 acres a year for food crops.

"I PURCHASED these tires for several reasons," Mr. Jarrett writes, "one, that they afford better traction in the sticky mud which I encounter in my farm work; also for the speed which I can accomplish with these and which is utterly impossible with solid tires. After using pneumatics, I can say there is only one motor truck tire suited for grain farm work."

After the motor truck dealer has so thoroughly analyzed his hauling, given due consideration to all of the possible means he might use, and then indicated what degree of success other grain farmers like himself had obtained with a motor truck properly equipped, this Illinois farmer became convinced that with his particular hauling conditions, he would lose money if he did not secure a motor truck with box body and pneumatic tires. In it, he saw a means of off-setting the labor shortage.

Power farming follows labor shortage.

Farmer's Truck Delivers 3,550 Bushels of Corn In Four Hours

Quick handling of grain by motor truck is illustrated by a movement from the Edward H. Linneman farm near Stanford, Illinois. Six trips were made by the motor truck from Stanford to Roodruff, ten miles, with 3,350 bushels of corn, in four hours and seven minutes. The six loads had a consumption of eight gallons of gasolene, this fuel also taking the motor truck to Bloomington, ninety miles in all being traveled. Had horses been used for the movement, three times as much expense would have accrued, while there would have been long delay as compared with the use of the machine.

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'Bus Lines Give Rockford Best of Service

With 47 Machines in Operation the Fay Company Represents Largest Intercity Line in the Country

HAVING been successful in being recognized as a public utility by the State of Illinois Public Utilities Board, the Fay 'bus lines of Rockford have recently added 26 trucks to the fleet of 21 which were already in operation. The Fay 'Bus Company now operates the largest inter-city 'bus line in America and a city 'bus line second only to the City of New York. So successful has the project been, that the company is now contemplating the installation of a fast freight service between Rockford and Chicago. It is proposed to use 5-ton Whites in the freight service.

The Fay company made its reputation and initial success at Chillicothe, Ohio, in operating the Camp Sherman lines. When the petition for franchise in Rockford was being heard, Major General Bell, commanding Camp Grant, and Major General E. F. Glenn, former commandant of Camp Sherman, appeared in its behalf before the State Utilities Board. The Fay lines in Rockford originally connected Camp Grant with the center of the city, but the service has now been extended to all parts of town. A person can travel from one extreme of the city to the other through traffic in 30 minutes' time. The outskirts of town can be reached from the factory district in 15 minutes. An average haul from the factory district at quitting time, and in the morning going to work, is 2,076 people in one hour and thirty minutes, very nearly 1,000 more than has ever been hauled by any other method in this city in a like time. In eight months the Rockford 'bus lines hauled well over a million people at the rate of 175,000 a month.

Although slightly higher in rate of fare than the street car, flexibility of service and greater speed more than compensate for it. For instance, by 'bus the round trip of 14 miles to Camp Grant can be made in 50 minutes while the same run by street car takes 1½ hours. The street car amounts to 12 cents while the 'bus line fare at commutation rates is 15 cents. Single trip tickets via the 'bus cost 20 cents each.

A transfer system has been established which possesses many novel features. The slip is good in any three directions except that from whence the 'bus is traveling. The passenger pays 10 cents for the transfer on which the time, date and direction are punched. If used again within 15 minutes the 10 cents is refunded. If not used within the prescribed limit the transfer may still be utilized as an ordinary ticket for another ride.

The Fay lines connect Byron, Leaf River, Mount Morris, Stillman Valley, Davis Junction and New Milford. The passenger carrying rate for this inter-city service is about 3 cents per mile. A sample operating schedule and passenger express and parcels delivery rates are shown below:

All 'buses used on the Fay lines are Reo ¾-ton speed wagons. The seats are arranged fore and aft and also crosswise. The former type predominates. These bodies are all equipped with compartments for hauling baggage and light package freight. The Fay company manufactures its own 'bus bodies and builds them as economically as possible without sacrificing sightliness and comfort. Twenty-seven people is the peak load capacity of these 'buses. The tires are 34 by 4½ front and 35 by 5 rear.

With 47 'buses in operation the business administration of the Fay lines is a department of the greatest importance. On account of the great variations in the nature of the roads traveled, little attempt has been made to introduce competition between drivers in the matter of fuel saving. However, the driver's efficiency is accurately checked by two methods: the shop card and the defect card. When anything is out of order on a 'bus the driver is required to enter a defect card which contains a list of all the things that can possibly happen. Before one or more of the items he placees an "X." During the inspection period minor troubles are adjusted. The card carries the 'bus number, run number, and the name of the driver. The shop foreman signs the card when inspection has been made.

A shop card is made out for the repair of the 'bus if it is a shop job. This shows hours, material and new parts and cost thereof for the job. By these methods an accurate sheet may be kept and a check made on the treatment that each driver is giving his 'bus. Each tire in use is given a number and an accurate record is kept consisting of date installed, car number, size, date removed, cause for removal, mileage, from whom purchased, etc. Mr. Fay figures the average life of a 'bus 200,000 miles and a total replacement every two years.

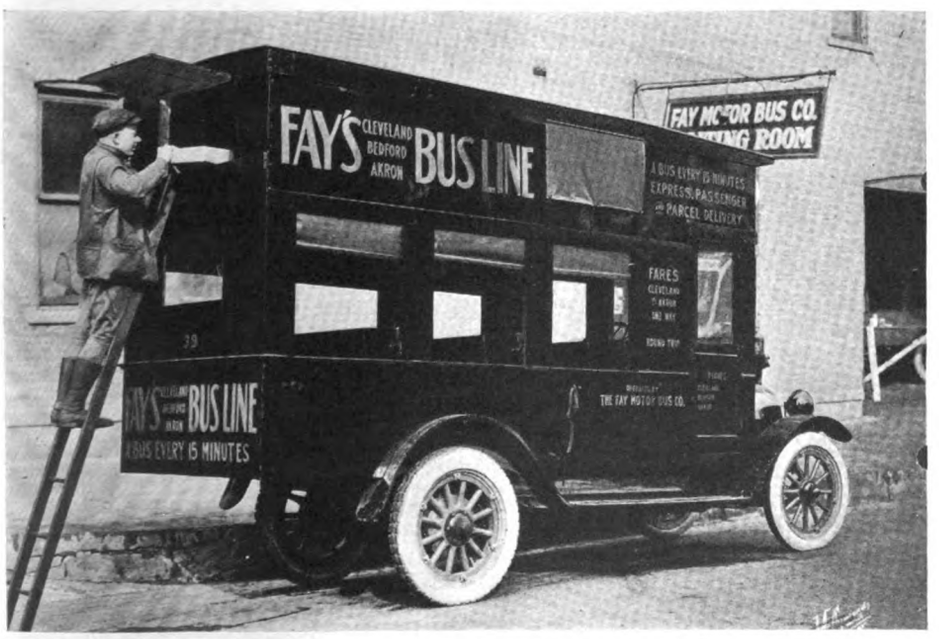
The machinery of collection and disbursement is more complicated. The general manager receives a daily report of receipts from six sources and disbursement to 12 divisions of expense. This latter section includes casualty and insurance reserve and interest and rentals.

A DAILY trip report is made out by the driver of each 'bus which enumerates the working hours, the running time between stations, total amount of cash, number of tickets, etc. The receipts are turned in sealed in a small envelope bearing the driver's name, run number and the amount taken in.

Checkers equipped with motorcycles go to the various loading points and make daily reports on 'buses by number, direction of travel, number of passengers, and time of departure or arrival. This enables the dispatcher to check his reports for accuracy and prevents leaks on account of dishonest drivers. The dispatcher's report, of course, is more complete and contains the record of all 'bus movements and operations for the day.

A record of daily 'bus receipts is kept in the main office. It shows the receipts for each 'bus, average receipts per mile and average number of passengers carried per 'bus. record of trips and weather conditions. A record at the bottom shows the grand total of receipts and the check on the driver, whether he is long or short in what he has turned in. Each week a record is taken from the daily record sheets.

A business of this kind founded on and operated on sound principles shows what can be done with the application of motor trucks to passenger transportation. In flexibility and economy of operation it has shown its feasibility. Pioneers like the Fay 'Bus Company are typical of many more to come as good roads are developed throughout the country.



Fay 'bus line machine showing freight compartment.

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River Shipment Epochal In Waterway Haulage

SAVES 216 MACHINES FROM DRIVE-AWAY

When the steamer Percy Swain, pushing nine flat-bottomed barges, loaded with 216 Chevrolet motor cars, landed at the Peoria levee June 6, she not only established a record for big cargoes upon the Illinois River, but completed an event in navigation and transportation that may become epochal in waterway shipping.

Although important as a demonstration of resourcefulness to achieve quick transportation, despite congested freight condition, the event was chiefly significant because it is believed to be the precursor of a new era in river transportation, one that may make Peoria one of the leading gateways for bulk freight shipments between the North and the South. The shipment of 216 cars left St. Louis, Thursday, June 3, and three days were consumed for the run of 200 miles. The progress of the consignment was eagerly noted by manufacturers and shippers of all kinds of products. It was given out that if a success, the river would be more frequently used than in the past.

Detroit and other motor car manufacturers of Michigan are anxious to use the Mississippi and Illinois Rivers for movements of cars to the South, and if the barge system can be maintained, it is believed that it will come into general use. The freight charges on the shipment of 216 cars on the barge consignment were 20 per centum less than the cost by railroad and 50 per centum less than the cost if the cars had been driven overland on their own power. In addition, the cars arrived in first-class condition, and which would not have been the case had they been driven overland. The railroads have been utterly unable to furnish equipment and the Peoria distributers, the Malone brothers, were forced to accept the barge and river movement, or drive overland. So well pleased were they with the initial shipment by river that another has been ordered by the same route and of the same extent.

The bright prospects for a waterway connecting the Great Lakes and the Illinois River have had the effects of reviving interest in river shipping and impatient business men, who have become disgusted with the congestion on the railroads, are eagerly turning to the waterways as the solution of the problem. The success of the Malone brothers' consignment will likely be followed by other shipments for the other distributers of Peoria, who represent St. Louis made cars or other motor vehicles.

O. K. Giant Battery Corporation to Work 2,000 Men In New Plant

More than two thousand skilled and unskilled men will be employed in the plant of the O. K. Giant Battery Corporation at Gary, Indiana, by the time the eighth unit is completed this fall. Two buildings are now in use, and the third will be finished and production at top speed by July 15, according to Paul B. Rabe, president of the corporation, which is turning out a dry, rechargeable battery.

The contracts call for completion of twelve buildings by December 30 of this year, and by the way the construction is being rushed now, all the units ought to be ready by that time. The O. K. Giant Battery Corporation has a tract of 40 acres, on 37½ of which will be erected forty buildings.

A large bulletin sign 10 feet high and 25 feet long at the intersection of Ninth Avenue and C. & E. I. Railroad tracks indicates the home of the O. K. Giant Battery Corporation. "So many people are interested in our building operations and my days are so short in which to accomplish all I have to do I thought a sign big enough, so it could be read as one runs, would help to conserve my time and voice in answering queries. I think people appreciate being informed of what is going on, hence the sign," said President Rabe.

"To convey an idea of the scale on which our operations are going forward, in unit No. 2 we have installed $72,000 worth of electrical charging boards of the most modern type. These boards have a charging capacity for 200,000 dry rechargeable batteries of all types per day."

Berdon Offers New Governor

The Berdon Manufacturing Company announces a new motor truck and tractor motor governor of the gas velocity type. It is especially adapted for the heavy duty service associated with this class of engine. Simplicity, close regulation and durability are particularly emphasized in the construction and the performance of this instrument.

Being absolutely automatic in its action, the usual driving gears and shafts have been eliminated. The governor possesses but one moving part, the throttle assembly, which serves both as the control and the throttle unit. This is carefully mounted on a steel ball bearing of very ample capacity which is completely housed in and permanently lubricated. This construction insures long life and consistently satisfactory performance.

Graham Brothers' Speed Bus Body Specifications

STURDY MACHINE GAINS IN POPULARITY

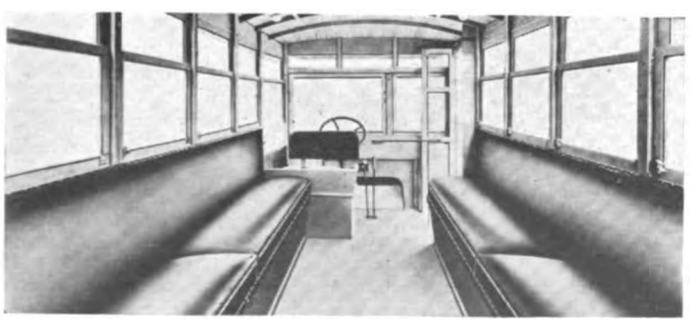
The "Speed 'Bus" body, made by Graham Brothers, Evansville, Indiana, is 6 feet 2 inches high inside; width of aisle is 2 feet 9 inches. Outside body dimensions: Width 6 feet 1 inch, height 6 feet 4 inches, length 14 feet. Seats are 18 inches high and 16 inches deep; spring cushioned seats and padded backs, upholstered in imitation leather. Driver's seat also with upholstered back; battery and tool compartment underneath; gasoline compartment at left.

The vestibule door is operated by a lever from driver's seat. This door extends to the bottom step, which is 14 inches from the ground. The second step is 8½ inches high. The floor is 8½ inches above the second step. The door is 24½ inches wide and 6 feet 6 inches high. The rear door is 5 feet 3 inches high, 21 inches wide, with an outside step. The windows consist of movable lower sashes, 26 by 16 inches, and stationary upper sashes, 26 by 12 inches. Sliding panel for arm signaling to the left of driver. The windshield is one-piece ventilating type, 33 by 21 inches, and can be swung either in or out. The electric equipment includes four frosted glass domelights, signal buzzer, eight signal buttons conveniently located.

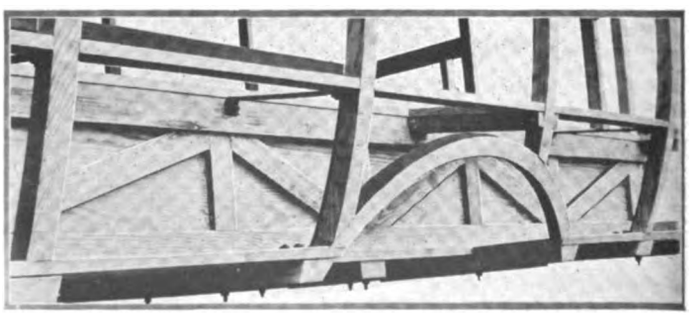
Floor sills, uprights, deck ribs, door and window sashes and windshield frame are all made of carefully selected and thoroughly seasoned hardwood. Three of the truss through-bolts on each side extend through angles riveted to the motor truck frame, firmly securing the 'bus body to the chassis. No body bolts run through the flanges, of the motor truck frame itself. The wheel housings permit an extra width of body and a low floor accessible in three easy steps. The chassis is identical with the standard 1½-ton "Speed Truck" chassis, including Disteel wheels, truck cord pneumatic tires, electric lights, magneto-generator, storage battery, engine-driven tire pump, odometer and motometer. Body parts are interchangeable, eliminating hand fitting.

Dean Joins Garford Staff

R. D. Dean, formerly White representative in Kern County, California, has been appointed manager of the Los Angeles factory branch covering southern California for the Garford Motor Truck Company.



Inside view Graham Brothers' bus.



Body construction of speed 'bus.

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What Service Owes to Owner

By HENRY R. SELDEN
Service Manager, Selden Truck Corporation

EVERYONE has patience with an art of an industry in its primitive stages. Many of us can look back with mingled joys and regrets at the difficulties we encountered in the early days of automobiling. Those pioneer days necessarily involved conditions and troubles which always beset the pioneer in any field. Engineers have from that time on vied with each other in continuously producing better types of motor cars and motor trucks. The service department must also accept this challenge and continuously strive to improve its methods in order that it may keep pace with the engineering and other branches of the motor vehicle industry, and only in keeping pace with the other departments does the service branch fulfill its obligation to keep the vehicles continuously on the road.

What may have been considered good service ten years ago would hardly be considered good service to-day. What we may consider good service to-day may not be considered good service five years from now.

THE modern definition of service means getting the best possible continuous accomplishment from a motor vehicle, having a due regard for its design, capacity and life. It is obvious that the service department must bend every effort to see that the conditions are carried out which make this possible. There can be no good service without education, and he serves best who helps others serve.

Automotive vehicles are complicated machines demanding, if they are to give the best possible results in the way of carrying capacity and reliability of operation the attention of some one thoroughly familiar with their lubrication and the adjustments of the various parts.

Experience has clearly shown that the majority of such vehicles are relegated to the scrap heap prematurely, because of abuse and the lack of proper care. The answer to this problem, so that owners may secure the maximum life and continuous operation of their vehicles, is service, and the keynote of service is education.

Education of this kind may be classed under four principal headings:

First: Education of the service department employees so that they will readily visualize the customers' needs and difficulties, enabling them to handle parts orders or other matters promptly and accurately.

Second: Education of the branch managers, dealers and salesmen so that they will not make unreasonable promises when selling the vehicle and supply a type entirely too small or not suited satisfactorily to meet the customer's requirements, nor encourage overloading, excessive speed or lead the owner to expect that it can operate successfully without a reasonable amount of care and attention.

Third: Education of the purchaser so that he will not expect more than the vehicle can possibly do and thoroughly appreciate the necessity of giving it proper care and attention, showing him also that whatever steps may be taken in this direction will pay large dividends in reduced cost of upkeep, and increased reliability.

Fourth: Education of the driver or operator to the facts that proper handling and the correct lubrication of the vehicle for which he is responsible will greatly increase his value to both himself and his employer.

HOW best to accomplish this education of the four classes just mentioned is a problem. If we are to fulfill all of our obligations to the owner this problem must be solved, and the fact that we are gathered here to-day, service men with service messages, shows that we are working toward its solution. No service department, no matter how well organized, no matter how well trained, no matter how efficient, can be considered a panacea for all of the owner's difficulties. There is much educational missionary work to be done and we must all unite to accomplish it.

The motor truck manufacturer who is actually engaged in selling automotive transportation has assumed certain definite obligations to his customers, which endure throughout the life of the motor truck. These may be classed as follows:

First: To maintain at all times an adequate stock of replacement parts so that orders may be filled promptly and repair work completed with the least possible delay.

Second: To issue necessary parts catalogs and instruction books covering his various models from which material needed for repairs may be ordered intelligently.

Third: To furnish his customers and dealers such technical information in the form of bulletins or service letters as will assist them in maintaining their motor trucks.

Fourth: To investigate carefully all complaints regarding the performance of motor trucks and if the owner or his drivers are at fault, to convince them of this condition or in case the trouble has arisen through a defect in construction, material or design to take such steps as may be necessary to correct it in the particular case and also to prevent a recurrence of the difficulty.

Fifth: To keep a complete record of all motor trucks built, including the numbers or other identifying marks on the various units entering into their construction so that orders for parts can be filled promptly and accurately, also information furnished the owners for insurance or other purposes or the police in cases of theft.

Sixth: To answer promptly all of the numerous questions asked by the customers in connection with the operation or repair of their vehicles and to afford them every possible assistance so that satisfactory results may be obtained.

Seventh: To keep an accurate record of all parts shipped so that executive officials or the engineering department may be advised from time to time how well the various units are standing up in service, as a guide to future designs.

Eighth: To keep a record of new motor trucks shipped and also to keep track of machines which have changed hands so far as it may be possible to do so.

I have indicated that there can be no real service without education, and this holds true not only in the attitude of the service department toward the owner, but also in the obligation which the owner or dealer owes the factory.

The owner or dealer must realize that his order, inquiry or complaint is but one of the many passing through the service department and should be compiled in a clear and definite manner in order that it can be disposed of with a minimum of delay and the least possibility of error through a misinterpretation of their wants. Probably 20 per centum of service inquiries and complaints are held up for want of definite and complete information.

CUSTOMERS and dealers will continually use the name of the owner of the motor truck without stating either the type or the chassis number, and a letter or telegraph inquiry often involving the loss of three or four days must be despatched in order to ascertain the type of vehicle and chassis number.

Customers, garage men or dealers who are unwilling to spend the small amount of time necessary to secure and embody this information in their inquiry or order can hardly expect efficient service.

The service department has certain definite methods for handling different classes of work. Special forms have been prepared for the ordering of repair parts, presentation of claims for adjustment or replacement and for other purposes. The proper use of these forms and the furnishing of complete information in the first instance eliminates the necessity of writing or telegraphing for further details and greatly facilitates the handling of such transactions.

The truck manufacturer and his customers have certain interests in common and the closer they coöperate the better for all concerned. The owner is interested in conserving his investment, getting the most work out of the motor truck with the least

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expense for replacements, and above all, a minimum of time lost for repairs. The manufacturer is vitally interested in seeing that the machine gives an efficient performance in every possible way, not only because of the moral obligations attendant on its sale, but also in view of possible future business.

The service department is the medium of contact between the manufacturer and the owner—it handles all matters following the sale of the motor truck and the future success of any firm is largely in the hands of its service department.

There is a wide difference between real service and the mere merchandising of repair parts—it is a comparatively simple matter to accumulate a stock of replacements, but to handle them successfully, keep definite quantities on hand in the face of a fluctuating demand, to anticipate the emergency when there is a sudden call for a particular class of material, maintain the various record systems necessary for the conduct of a properly organized service department, and above all, to keep the owner continuously sold on his motor trucks, to convince him that the factory at all times has his interests at heart and is only too pleased to do anything within reason for him is a very different matter. This is in fact the difference between the real service which a manufacturer strives to give and the mere selling of repair parts.

The truck manufacturer's service department can not successfully meet all of these obligations without considerable coöperation from the customers and dealers this involves:

First: That all parts orders be clearly written if possible, including the manufacturer's serial or ordering numbers for the material needed.

Second: A statement of the type and chassis number of the vehicle for which parts are wanted.

Third: Complete address in cases where the customer only purchases parts occasionally, also full instructions covering the shipping and billing, particularly where the shipment is intended for another party, as a dealer ordering repairs shipped direct to an owner.

Fourth: Written confirmations of all telegraph or telephone orders should be mailed the service department as a check on the transmission of the messages.

Fifth: A duplicate copy of the order as entered is mailed the customer and it is his obvious duty to check this over carefully, notifying the service department immediately of any errors or omissions.

Sixth: Material returned to the factory for credit or other purposes should be properly tagged to identify it and a complete statement of all the facts in connection with the transaction mailed to the service department. This includes the owner's name and address, chassis number of motor truck, reason why parts were removed, length of time in service and in fact all necessary details, so that the factory may promptly dispose of the affair.

Seventh: Complaints founded either on mechanical or shipping troubles must state all of the facts, as without full and complete information the service department is seriously handicapped in making an investigation—the lack of such information often involving a tedious search of record files at a great expenditure of time and energy, also frequently the necessity of asking for further details.

The importance of good drivers can not be overestimated. When operating only one or two motor trucks it is imperative that the driver be allowed time to properly lubricate the machine, during working hours if possible, and if not, that he be paid for overtime spent in this way.

With a fleet of motor trucks this problem is much simpler, as a man can be assigned to do the necessary lubricating, also replenish the fuel and water tanks, take care of the oil lamps or any other routine d ties. At the same time another man can attend to minor mechanical repairs and adjustments; this work could be accomplished at night and need not interfere with the daily work of the motor truck.

Many owners expect that if a driver works eight hours a day the motor truck will be on the road for a corresponding period and this obliges the operator to make all replenishments of fuel or water and such little lubrication as the motor truck receives on his running time. This attitude encourages carelessness, as obviously, if the owner is not sufficiently interested in his investment to conserve it, the driver likewise will not be much concerned and perhaps feel that grease cups, the universal joints or the rear axle can go till next week or next month before he lubricates them.

Through long experience the care of horses is thoroughly understood. The driver of a team feeds and waters them at definite intervals and no owner of a span of horses would hire a man who through ignorance or negligence was unwilling to give them his attention. It is just this sort of intelligent care which must be applied to the motor truck if it is to prove satisfactory, operating at a minimum cost with the least possible depreciation.

There is at times an all too frequent tendency on the part of some prospective motor truck owners to beat down the salesman or dealer and obtain motor vehicles at less than standard prices. This attitude on their part is indeed short-sighted and the quicker this practice is eliminated from the whole industry the better for all concerned.

The prospective motor truck owner who covertly or otherwise undertakes to purchase motor vehicles below their regular prices is placing a high premium on a poor dealer and a low premium on a good one. No dealer can undertake to service motor vehicles unless he makes financial provision to do so, and the prospective motor truck owner who seeks to absorb that portion of the dealer's profit which should be rightly devoted to service is from my viewpoint "killing the goose that lays the service egg."

Trucks Tractors 600 Miles

With the railroads tied up, spring breaking and the farmer badly in need of tractors, the Smith-Henry Company, of Nashua, New Hampshire, decided that it would get its orders filled somehow, even if it had to come to Cleveland and haul tractors home by motor trucks.

This was no small undertaking, for the long, hard winter had not been easy on roads, and a 600-mile drive was no especial pleasure. But the company figured it was the only course and went ahead.

The accompanying illustration shows a Federal motor truck driving away from the Cleveland Tractor Company with two tractors aboard. The Cletrac's compact design and light weight was a big factor in favor of the trip. Mr. Putnam, at the wheel, said that he would never attempt such a drive with cumbersome, heavy 12-20 tractors.

Field Company Incorporates

J. F. Field, owner of the Field Manufacturing Company, Owosso, Michigan, has incorporated the Field Manufacturing Company which became effective May 1, and in the future will be known as the Field Body Corporation. The personnel of the company is: J. F. Field, president; E. J. Frederick, vice president and treasurer; F. H. Basom, secretary; Gilbert L. Taylor, assistant treasurer. In addition to its recent 100 per cent increase in production the company expects to triple its present capacity and very elaborate plans are under way for additional buildings and enlargements. The following have been appointed by the new corporation to take charge of sales and advertising: A. L. Ditter, general sales manager; F. J. Bosma, sales manager; S. Hugh Paine, advertising manager.

Prince of Wales highway will be the name of the road now under construction between Ottawa and Prescott, which will link up the Canadian capital with the highways of New York state.

Tractor starting on 600-mile ride.

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One Point of View

By ELISHA FLAGG

Sometime Superintendent Motor Vehicle Equipment, American Express Company

THE art of selling goods includes, as the prime factor, a transaction that will give permanent satisfaction to the purchaser which will be equitable to the credit on the books of the seller. One may truthfully assert that it is comparatively easy to sell anything that is a positive want. There used to be a saying among a certain class of pseudo-successful salesmen, that the highest phase of the art was to sell a man something that he did not want, which is nothing but sophistry and has only one base to stand on—that of a false premise.

Purchases are made because of the necessity for them. It is not every one who knows what a necessity really is: certainly not something bought under the momentary influence of an eloquent tongue and subsequently shelved to be covered with dust or rust because of no demand for it in the market.

In the early days of motor-driven vehicles, when horses were considered a necessity in all classes of transportation, the salesman who approached the buyer of vehicles found that he was met with a rigid wall of indifference—even accentuated to one of antagonism—against what was thought to be a temporary fad, and therefore, not a necessity.

Notwithstanding the buyer's idea respecting the position of the motor vehicle, he was wrong because he was prejudiced against change and because of his ignorance of the full meaning of a necessity. The salesman, himself, was almost as ignorant of the future values of the product: not having any precedent to guide him, he was at a disadvantage with his innovation. Experience has been an excellent teacher and there are many representatives of first-class concerns who have learned their lesson in the art of selling and have reaped a deserved success from their intelligent study of the buyer's needs. There are many, however, who are in the class that does not constitute clever salesmanship.

AS intimated, it is not in trying to "stick" the buyer with something he thinks he does not want, if he, the buyer, knows just what that means. The education in the field of trade is not, by anv means, limited in its scope to the salesman only. Unless the buyer has trained himself in the office of purchaser for his concern, the best qualified salesman can fail, utterly, to carry through negotiations that intrinsically are very much worth while.

An incompetent buyer is a menace to trade, as he retards its legitimate increase through purchasing goods of inferior quality at unequal prices and encouraging sales that eventually show loss to both manufacturer and operator.

A successful salesman is he who has the faculty of being able to take his own view and at the same time place himself in the position occupied by the buyer. Why? Because he must know both the strength and the weakness of the buyer. The instant a salesman opens his interview, the buyer is on the defensive; he assumes the position of disinterestedness: there is no encouragement to be expected from and not any to be shown by him.

Whatever is offered in argument by the salesman is either contradicted openly or repressed with more or less subtlety of expression in the buyer's face or general attitude. It is not even limited to this byplay. Some old-timers, who enjoy the discomfiture of a young and probably "fresh" salesman, will often lead him into a trap by using the opposite tactics; a smiling acquiescence to all the statements made, which usually are helped along with adroit questions, produces over-confidence in the salesman and he slips into a boastful attitude, making wild claims for his product, exaggerated figures of economy involved, citing instances as references that might have been true if limited to bald facts, but when, in the ecstasy of the moment of inferred success, enlarged and embellished to such an extent that it ends in his undoing.

ON the other hand, if the salesman has the cleverness to approach his subject-matter slowly but judiciously, not saying too much or too little (although the latter is far better in its results, as it wakens the curiosity of the buyer), if he knows his business and is prepared to furnish the information that the buyer naturally requires; if he does not overdo it all by talking too long; if he never for one moment "knocks" his competitors, but rather agrees generously that there are others in the field worthy of attention, he stands before the buyer as one to be treated like an equal, who through his quiet dignity of manner and calmly confident statements impresses the buyer with a respect and confidence which may not at the moment result in closing the sale so perseveringly worked for, yet plants the seed for it.

When investigations and comparisons are subsequently made by the buyer, he is bound to recall the personal equation of that interview. We readily see by this example that, as in all business transactions, confidence in the integrity of the participants is the fundamental quality to build on.

In the selling of motor trucks the salesman who has had sufficient familiarity with the mechanical construction; who has studied and developed practically the reasons for the success in the assemblage of those particular parts that make up the mechanism of his company's product, is far ahead of his competitors. It is an advantage over the glib salesman who rolls off his story from the printed specifications and whose knowledge stops at that point. It certainly increases the confidence of the buyer who looks to such competency as an authority, and who believes statements offered in favor of the value in construction and maintenance expense.

There are some salesmen who have the advantage of all this knowledge, who are foolishly not satisfied with such a basis, but proposing to go still farther and show the commercial world how much more clever they can be, add to their assets, as they firmly believe, by working out elaborate figures which, unless the buyer has been already informed, would appear to him as the work of the United States Weather Bureau, in its rise and fall, its waves and counter-waves, hazards and haphazards of theoretical demonstrations.

FOR the practical buyer, who, although desiring figures of maintenance, there is no benefit, only a misleading hindrance to facts. Some so-called efficiency engineers, reading this view, would emphatically deny the arraignment, but we will let that pass.

The clever salesman knows that the initial cost of a motor truck should have its proper place in an investment where, especially, it supersedes the horse-drawn vehicle and that the installation expense is the item that may be satisfactorily spread in the amortizaion of the investment.

What he should also know is that the instructed buyer is keenly interested in the quality of the material used in the construction, as upon that factor rests the matter of high or low maintenance expense.

The majority of motor trucks are manufactured under the plan of assemblage of parts made by makers who specialize in such work and to-day these parts, such as frames, engines, differentials, springs, etc., are much superior to what the ordinary, or even extra-ordinary, motor truck manufacturers can make; hence, maintenance expense is much benefited by such standardization.

Salesmen, therefore, who attempt to camouflage the subject when trying to sell their company's product by adroit intimation that theirs is not assembled but made in their own factory from one end to the other and thereby superior to competitors, are, besides stultifying themselves, making statements that sooner or later will act as boomerangs.

The buyer may be, at the time of his transition from handler of horse-drawn wagons to motor trucks, ignorant of many points in his mechanical education; but, being intelligent, as a rule, he gradually gets onto the "curves" and where the extra-bright salesman scores his first success in perhaps the sale of one trial motor truck, later succumbs to the competitive salesman with the foresighted acumen who, holding

(Continued on page 72.)

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Motor Truck Is Answer To Greatest Problem

Must Take Up Burden of Broken Railways in Distribution of Food and Other Commodities in Transportation Crisis.

ASK the next ten men you meet what is the most vital industry to the nation, and every one of them will answer "farming"—raising food.

But the foodstuffs do very little good until they are transported to our cities and put within reach of all of us, and transportation in this country is very badly demoralized, as we all know.

The railroads are short 700,000 freight cars and 4,000 locomotives. This equipment could not be built in the next three years, even if all railroad shops were to work full blast. But even when this shortage of equipment is met there will not be enough rails to run it on. The railroads are tied up, not only from the lack of cars and engines, but from a shortage of rails and adequate terminal facilities.

Think of it! The average freight car moves only twenty-five miles a day. This slow progress is due almost entirely to congestion. Relieve this congestion and you can increase the average rate of travel to thirty miles a day. This increase in travel would mean an equivalent of 600,000 cars, which would almost make up for the cars the railroads are now short. The point is, the railroads now get very little good out of the cars they have. What they want is less congestion.

There are 2,400,000 freight cars in use, and they can take care of the country's transportation, provided they are not held up by the short-haul business that is responsible for the present tie-up.

That's where the motor truck steps in. It must take the short-haul business—hauls up to sixty miles. The railroads admit they lose money on hauls shorter than this distance, and they must either raise freight rates to offset this loss or turn the short haul over to the motor truck.

But an increase in rates will not relieve this congestion; will not solve the problem. The motor can and must solve it. The railroads see this. They are not hostile to the motor truck.

The motor truck is not running in competition to the railroads. It is simply helping them out of a bad pinch and turning the loss into a profitable business, which will solve one of the nation's most vital problems. Motor truck transportation is one of the vital necessities of the country to-day.

Notice that, *motor truck* transportation. Both the passenger car and the motor truck furnish transportation, but these two branches of the automotive industry are entirely distinct and different. The passenger car has its function, but the motor truck is an absolute economic necessity.

It is the same as in farming. Farming is, of course, a prime essential, but how about the fellow who raises Brussels sprouts and fruits out of season for a fancy price? Do you call him essential? Neither do we, but both are called farmers.

The same distinction holds in the automotive industry, and in these days when bankers are not looking around to find someone to whom to loan money, they are supporting the motor truck industry in a manner which indicates that they realize not only the growing demand for motor trucks but the absolute necessity for them.

The motor truck is a good investment. It pays for itself. It is a business proposition, pure and simple, and is helping solve the transportation problem that is one of the most serious considerations that the nation has to face at this time.

United States Tire & Rubber Company Offers New Giant Solid

A new big single solid tire for heavy-duty motor trucks carrying up to six tons to a wheel has been announced by the United States Tire Company. The most interesting features of the tire are that its design is claimed to insure the elimination of the chief cause of internal friction, provides for the dissipation of frictional heat and also makes possible a more perfect vulcanization of all parts of the rubber than has ever been accomplished before. The tire will be made in sizes from seven to fourteen inches.

Mono-twin, new truck tire.

The new tire, known as the Monotwin, has, it is claimed, solved all of the various solid-tire problems effectively. Big motor trucks equipped with them can travel at good rates of speed without danger of ruining the tires. The Monotwin is a huge single with an especially massive rubber body. Deep depressions occur at regular intervals in the center of the tire. The new tire is made from the grainless rubber which is a distinctive feature of all the solid tires made by the company.

The contour of the wearing surface of the tire and of the depressions is such that, as the tire wears down, more and more tread surface is exposed to the road so that the load-carrying capacity is uniform throughout the life of the tire. Moreover, the composite nature of the tire makes possible its use either as a wide single or in place of duals.

Advises Dealers' Association to Inaugurate Social Welfare Work

The Rockford, Illinois, Automobile Trade Association has voted to enlarge its scope of activities during 1920. At a recent meeting, it was voted to promote hill climbs, reliability runs, auto races, etc. President Murray Bird outlined the new policy of the dealers in the following statement: "I believe that this association should align itself actively in welfare work. During the periods of the year when it is desired, we should provide cars to give the inmates of the Tuberculosis Sanitarium, hospitals, public welfare institutions, etc., as well as the nurses and others who are engaged in the management and who seldom have any leisure or hours for pleasure, a sightseeing trip through Winnebago County. I believe that certain days in each year should be set aside for this purpose. I am sure that the motor car industry will be placed in a more favorable light before the public by promoting such pleasure trips, and coöperating with the Rockford Motor Club. We should not confine ourselves exclusively to the business side of the industry, but should fall into line with the modern ideas of fraternalism and get together in a social way with our families and patrons in picnics and other outings."

Atlas Truck Election

The following men have been elected directors of the Atlas Truck Corporation: A. R. Cosgrove, general manager; Reeve Schley, vice-president, Chase National Bank; F. M. Small, president, Martin-Parry Corporation; Oscar Gubelman, member of the banking house of Knauth, Nachod & Kuhne, New York; Herbert S. Carpenter, New York; D. D. Sargent, vice-president, International Motor Company; John J. Watson, Jr., vice-president, International Agricultural Corporation.

The following were elected officers: John J. Watson, Jr., president and chairman of the board of directors; A. R. Cosgrove, vice-president and general manager; Henry Hopkins, Jr., vice-president; Thomas Strauss, assistant treasurer; E. J. Sheppard, secretary.

The general manager reported that the first shipment on a large foreign motor truck order taken by the company would be made this month. He stated also that the plant was now running on a production basis of two hundred machines per month, and that the company has on its books orders that will claim its full output until well into the fall.

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American Bosch Offers Trade New Starting Motor, Generator

The new starting motors manufactured by the American Bosch Magneto Corporation are made in two sizes. The outside diameter of the larger is 5 inches and it is designated as Type 5M; the outside diameter of the smaller is 4 inches and it is designated as Type 4M. Both motors may be furnished for operation with either 6- or 12-volt systems.

The stalling torque of these motors is exceptionally high and the design such that power for starting is obtained with minimum output from the battery. Careful tests have proved that, although small in size, these starting motors develop sufficient power with the proper factor of safety for starting any of the standard automotive engines manufactured to-day.

The field coils and armatures of these motors are carefully wound with high-grade wire and impregnated to insure perfect insulation and mechanical strength. All starting motors are equipped with Bendix drive, oilless, self-lubricating bearings, and are furnished for either inboard or outboard operation. They can be supplied for either cradle or flange mountings in accordance with S. A. E. dimensions. The motors with these flanges are self-locating and require no support other than the flange. These motors can readily be adapted for use on any of the standard makes of engines.

The new lighting generators are made in two sizes. The larger size has an outside diameter of 5 inches and is designated as Type 5K; the smaller has an outside diameter of 4 inches and is designated as Type 4K. Both generators can be furnished for either 6- or 12-volt operation. The generators are of the well-known third-brush type of regulation. This assures a low cut-in speed, rapid rise to full output with increasing car speed, and decreased generator output with high-speed driving. These generators are extremely simple and dependable. After their initial adjustment, they require no outside control or attention. Both sizes of the generators are of the four-pole type, wound with well-insulated copper wire. The armature and all other windings are impregnated to insure perfect insulation.

Denver Truck Beats Railway

The Turner Moving & Storage Company, of Denver, Colorado, recently moved 4,000 pounds of goods to Pueblo from Denver for $90. The same job would have cost $108.60 by rail and the owner would have probably waited a week for the shipment, whereas the job was done by motor truck in one day.

Mr. Garver, manager of the company, which owns eighteen Kissel motor trucks, enumerates the cost by rail as follows: Crating, $50; delivery to railroad, $16; redelivery at Pueblo, $16; freight, $26.60. The owner would still have to unpack his goods himself. In the particular case to which Mr. Garver refers, the goods were loaded in the morning and before the sun had gone down the same day the goods were all in place in the man's new home in Pueblo. The man himself had not done a bit of the work.

Belgium Plans Three Shows

Three international exhibitions of automobiles and accessories will be held this year at Antwerp, Belgium, on the occasion of the International Olympic Games which are expected to draw a large crowd of visitors to Antwerp from all over the world. The first exhibition will take place from May 15 to June 13. The second exhibition runs from June 26 to July 25, and will make a specialty of commercial vehicles, agricultural tractors, camions and motors. The third show will be from August 7 to September 15.

American consular reports indicate that Belgium offers a good market for manufacturers of automobiles, cycles and accessories, also for commercial motor vehicles and farm tractors. Accessories and parts are specially scarce there at the present time.

Temporary free entry will be obtained from the Belgian Custom House for foreign exhibits, and every possible facility will be given to foreign exhibitors. Application should be made at once in order to secure space. All information and application forms may be obtained from James Gustavus Whiteley, Belgian Consul, 223 West Lanvale street, Baltimore, Maryland, who has been appointed special representative of the Antwerp International Exhibition.

John Morgan Heads McGraw Rubber

John Morgan, formerly vice president and treasurer of the McGraw Tire & Rubber Corp., has been elected to the presidency, succeeding the late Edwin C. McGraw, founder of the company, who died at his southern home, Miami, Florida, May 24.

New O. K. Battery Claims to End Troubles of Machine Owners

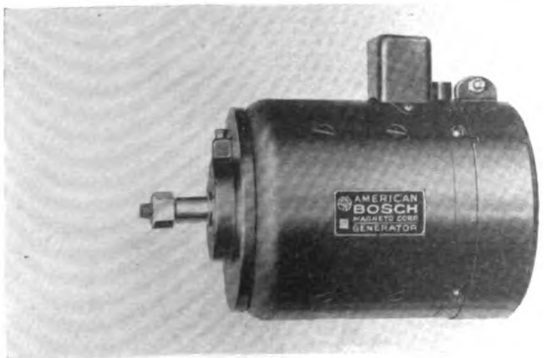
Paul B. Rabe, of Chicago, a business man with a mechanical turn of mind, is credited with being responsible for giving to the world the missing link in mechanical electric construction. After four years he has been able to turn out a dry rechargeable battery claimed to put an end to the battery expense and troubles of the motorist.

Owners of automobiles no longer will have to worry about their batteries in cold weather. The battery now being manufactured at the plant of the O. K. Giant Battery Corporation, at Gary, Indiana, of which Mr. Rabe is the president, will not freeze. It also eliminates the service station problem. It has been subjected to the most severe tests that could be given a battery and always has functioned.

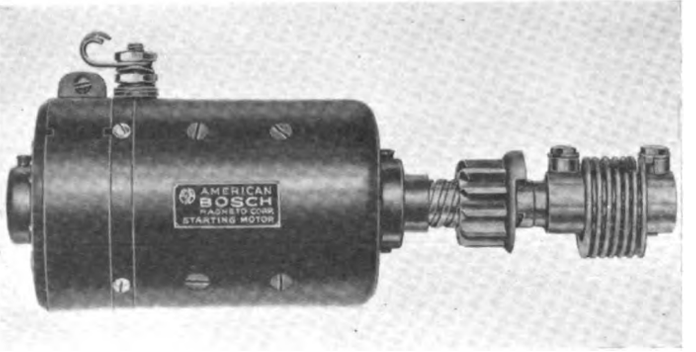
One of the most severe tests to which this battery has been subjected was freezing in a discharged condition, in a cake of ice three days and letting it stand outside for twelve hours with the temperature at 11 degrees below zero. That treatment did not harm the O. K. It lived up to its name.

New Tire Pump in Wizard

The engineering and mechanical principles involved in the design of the Wizard valveless tire pump, manufactured by the Rex Machine Company, Chicago, differ greatly to those in any other pump. Only three parts compose the moving mechanism, namely, the piston, connecting rod pin and crankshaft. No valves, springs, cams or wristpins are used. Crankshaft, as well as connecting rod pin, are heat treated and hardened to eliminate any possible wear on these parts. The valveless construction eliminates many small parts that make up the spring check valve and does away with the tremendous back pressure which is unavoidable in valve type pumps when operating against high pressure. It is an established fact that it takes three times as long for a valve type pump to inflate a tire from 40 to 80 pounds as it does from zero to 40 pounds. This inefficiency is due to valve leakage and back pressure. Neither of these faults are present in the Wizard, as the operation of intake and outlet ports is purely mechanical, the only resistance being that of the air pressure in the tire. Another advantage of the Wizard is that it will not cease to operate efficiently when run at high speed.



New Bosch generator.



Starting motor, American Bosch Company.

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500—2,000 (Nash) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	500 Pounds:																			
1	Pony	$320	Own	4	2¾x4-12.1			T	C, Own		Stromberg		Atwater-K			F, 3				1
	1,000 Pounds:																			
2	Belmont, A	1,150	G B & S-A	4	3¼x4½-22.5	S	Pierce	T	C, Modine	N	Zenith	G	B	Y	P, G B & S	S, 3	Grant-Lees, K	N	Sterling	2
3	Corliss, A	800		4	3¼x4½-15.6			T			Schebler		M, Splitdorf		M					3
4	Croce, 17	825	Wisconsin	4	3½x5-16.9						Zenith		M Bosch		M, Brown-L	S, 3	Brown-Lipe			4
5	Dodge	935	Own	4	3¼x4½-24.2	FS		P	T		Stewart		B, Northeast		M	S, 3				5
6	Duryea, C	675			12.0	S	N				Kingston		M, Bosch							6
7	Seneca, M		Le Roi, C	4	3¼x4½-15.9	FS		T	C, Kuntz	N	Schebler	G	BM, Bosch	Y	P, Borg & B	S, 3	Warner, B	N	Universal	7
8	Vim, 27	1,095	Own	4	3x4½-14.4	FS	N	T	T, McCord	N	Zenith	G	B	N	C, Own	S, 3	Own	N	Spicer	8
	1,200 Pounds:																			
9	Champion	1,100	Light	4	3¼x4½-16.9	S	N	T	C, Jamestown	N	Carter	G	B	N	P, Borg & B	S, 3		N		9
	1,500 Pounds:																			
10	Atlas	1,260		4	3½x5-19.6	S		T	C	N		G	B	N	P. Borg & B	S, 3		N		10
11	Bethlehem, K		Own	4	3½x5-19.6	F	N	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Spicer	11
12	Conetsoga, 12	1,850	Continental, N	4	3½x5-19.6	FS		T	C, Fedders	N	Stromberg	G	M, Simms	Y	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	12
13	Dispatch, G	1,200	Wisconsin	4	3½x5-22.5	F		T			Rayfield		M, Bosch			4				13
14	Economy, T-LHD	1,250	Own	4	3 1/16x5½-21.1		N	P	C, Own		Zenith		B, Auto-Lite		C, Own	S, 3	Warner		Hartford	14
15	Elmira, C	500	Perkins	4	3¼x4-15.6		N	T	C, Bush		Zenith		Atwater-K		C, Own	S, 2	Own		Own	15
16	Geneva, 1		Beaver	2	5½x5½-22.1		N				Schebler		M, Simms		P, Warner	P, 2				16
17	GMC, 16	1,725	Continental, N	4	3½x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	17
18	International, H	1,750	Own	4	3½x5½-19.6	FS	Own	P	T, Long.McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	18
19	Kearns, H	1,400	Hers'l-Spil 7000	4	3½x5-19.6	FS	N	T	C, G & O	N	Zenith	G	B	Y	P, Borg & B	S, 3	Grant Lees, K	N	Peters	19
20	Kissel, General Delivery	2,175	Own	4	3½x5½-24.0	S	Pierce	P	T, Sparks-W	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	20
21	Old Hickory, M	995	Lycoming	4	3½x5-16.9		N	P	C, Candler				Connecticut	Y	C, Lycoming	S, 3	Grant-Lees		Thermoid	21
22	Oldsmobile, Ecomony	1,250	Own	4	3 1/16x5½-21.7	F	N	P	C, Own	N	Zenith	G	B	Y	C	S, 3	Warner	N	Spicer	22
23	Patriot, Revere	1,785	Continental	4	3½x5-22.5	S	N	T	C, B & W	N	Stromberg	G	B	Y	P, Borg & B	S, 3	Covert, MA	N	Thermoid	23
24	Rainier, R11	1,850	Continental N	4	3½x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	24
25	Reo, F	1,445	Own	4	4¼x4½-27.2	FS	N	P	T, Own	N	Johnson	G	B	Y	M, Own	S, 3	Own	N	Own	25
26	Stewart, 11	1,350	Le Roi, 2C	4	3¼x4½-15.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	Y	P, Borg & B	S, 3	Durston 02500B	N	Hartford	26
27	Texan	1,200	G B & S	4	4¼x—28.9	F					Carter		M, Delco		M, G B & S	S, 3	Grant-Lees			27
28	Triangle, AA	1,600	Herschell-Spil, 4	4	3½x5-16.9	S	N	T	T, Perfex	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU¾	N	Detroit	28
29	Watson, 21		Waukesha, BUX	4	3½x5½-22.5	S	Waukesha	P	C, G & O	N	Johnson	G	B	Y	M, Brown-L	S, 3	Brown-L, 35	N	M & E	29
30	White, 15	2,400	Own	4	3½x5½-22.5	FS	N	P	C	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	30
	2,000 Pounds:																			
31	Acason, R	2,400	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	C, National	Y	Marvel	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N	Blood	31
32	Acme, B	2,175	Continental, N	4	3½x5-22.5	FS	Duplex	T	C, G and O	N	Rayfield	G	M Eisemann	N	P, Borg & B	I, 3	Cotta, BUC	N	Blood	32
33	All-American	1,795	Herschell-Spil	4	3½x5-19.6	FS	Pharo	T	C, Standard		Stromberg		M, Simms		M, Detlaff	I, 3	Cotta		Universal	33
34	Apex, C	1,395	Buda, RU	4	3½x5½-19.6	FS	N	T	C, Candler	N	Stromberg	G	B, Auto-Lite	N	M, Fuller	S, 3	Fuller, GU¾	N	Detroit	34
35	Atco, IG10	1,875	Buda, WU	4	3¾x5½-22.5	F	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	Y	Hartford	35
36	Belmont, B	1,950	G B & S, AA	4	3½x5-22.5	S	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	P, G B & S	S, 3	Grant-Lees, 515	N	Sterling	36
37	Bessemer, G	1,825	Continental, N	4	3½x5-19.6	S	N	T	C, Ideal	N	Zenith	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	37
38	Briscoe, T34	1,485	Own	4	3½x5-18.2		N	T	T, Perfex		Buick		Connecticut	Y	C, Own	S, 3	Own		Universal	38
40	Chicago, C1	2,200	Hercules, CU2	4	3¼x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	40
41	Clydesdale, 32X	2,375	Continental, N	4	3½x5-22.5	S	Own	T	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	41
42	Collier, 18		Continental	4	3¼x5-19.6		Monarch	P	T, Long		Zenith		M, Eisemann		M	S, 3	Fuller			42
43	Columbia, F	1,750	Continental, N	4	3½x5-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, B	N	Spicer	43
44	Commerce, E	1,855	Continental, N	4	3½x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	44
45	Conestoga, 20	2 100	Continental, N	4	3¼x5-19.6	FS		T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU¾	N	Sterling	45
46	Corbitt, E	2,200	Continental, N	4	3½x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	46
47	Dart, H	2,100	Buda, WU	4	3¾x5½-22.5	F	Pierce	T	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	Y	Spicer	47
48	Day-Elder, A	2,100	Continental N	4	3½x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	48
49	Denby, 12	1.950	Continental, N	4	3¼x5-19.6	F	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	49
50	Diehl, A	1,575	Continental, N	4	3¼x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Simms	N	P, Borg & B	S, 3	Durston, 02800		Hartford	50
51	Famous, B10	1,690	Continental	4	3¼x5-19.6		Monarch	T	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	51
52	Federal, SD	2,400	Continental, J-4	4	3½x5-22.5	F	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Own	N	Peters	52
53	Ford, T	550	Own	4	3¾x4-22.5	FS	N	T	T, Own	N	Kingston	G	M, Own	N	M, Own	P, 2	Own	N	Own	53
54	Fulton			4	3¼x5-19.6			T						Y	P, Borg & B	3				54
55	Gabriel, C	2,000	Buda	4	4¼x5½-28.9		N	P	C, G & O		Rayfield		M, Bosch		P, Borg & B	S, 3	Brown-Lipe		Spicer	55
56	Gary, F	2,100	Buda, WU	4	3½x5-22.5	F	Pierce	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Blood	56
57	Giant, 15	1,950	Continental, N	4	3½x5-22.5	FS	N	T	C, Ideal	N	Schebler	GK	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	57
58	GMC, 16	†1,725	Continental, N	4	3½x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	58
59	Hahn, C	1,375	Continental, N	4	3¼x5-19.6	FS			T, Chicago		Stromberg		M, Eisemann		M, Detroit	S, 3	Detroit			59
60	Hal-Fur, C	2.000	Buda	4	4x5-25.6		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	60
61	Higrade, A18	2,100	Continental, N	4	3¼x5-19.6	FS	Simplex		C, Perfex		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller			61
62	Hoover, 15B	1,435	Continental, N	4	3¼x5-19.6	FS		T	C, Candler		Schebler		M, Splitdorf		M, Fuller	S, 3	Fuller			62
63	Independent (Ohio), F	1,685	Continental	4	3¼x5-19.6		Monarch	T	T, National		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	63
64	International, F	1,950	Own	4	3¼x5½-19.6	FS	Own	P	T, Long.McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	64
65	Jones, 31A	1,395	Continental, N	4	3¼x5-19.6	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Arvac	65
66	Kleiber, AA	2,600	Continental, C4	4	3½x5½-22.5	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Brown-L	S, 3	Brown-L,35	N	Spicer	66
67	Maccar, S1	2,400	Continental, J4	4	3¼x5-22.5	F	N	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L, 30	S, 3	Brown-L,30	N	Spicer	67
68	Menominee, Hurryton		Continental, N	4	3¼x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1	N	Spicer	68
69	Myers, 60	1,545	Lycoming	4	3¼x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	M, Mechanics	S, 3	Mechanics	N	Universal	69
70	Napoleon, 9		Victory	4	3¼x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	B	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	70
71	Nash, 2018	1,875	Own	4	3¾x5½-22.5	FS	Simplex	T	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 3	Detroit, C	N	Own	71

† Does not include seat.

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TRUCK SPECIFICATIONS

500—2,000 (Nash)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
1	C, Own	....	.....	2, R	.....	E,	R, Own	½, ½	Tuthill	.....	.....	L	Own	.....	W, Prudden	90	28x3p-28x3p	.....	.....	1
2	B, Flint	Y	B	2, R	9½, 9½	C, E	P	½, ½	Mather	7, 8	36½x1¾-50x2½	L	Lavine	36, 0	W, E & O.	113	31x4p-31x4p	2,200	45, 75	2
3	B	....	.....	2, R	.....	E, E	P	½, ½	.....	.....	.....	....	.....	.....	W	100	31x4-31x4	.....	.....	3
4	B, Timken	....	.....	2, R	.....	C, E	P	.....	.....	.....	.....	....	.....	.....	.....	108	32x4-32x4	.....	.....	4
5	B	....	.....	2, R	.....			.....	Detroit	.....	.....	....	.....	.....	W	114	33x4p-33x4p	.....	.....	5
6	.....	.....	.....	2, R	.....	E,	P	C, T	.....	.....	.....	.....	.....	.....	W	86	36x3½p-36x3½p	.....	.....	6
7	B, Peru. 3050	....	B	2, R	9½, 8½	E, C	P	½, C	.....	6, 9	36x1¾-51x2	L	Ditweiler	.....	W	108	30x3½p-30x3½p	.....	.....	7
8	W, Sheldon, W500	Y	W	2, R	11 , 10½	E, E	P	½, ½	Shelden	8, 7	38x2-50x2	L	Jacox	30, 10	W, Hoopes	108	31x4p-31x4p	2,120	40, 70	8
9	B	Y	B	2, R	10 , 10	C, E	P	½, ½	.....	7, 8	36x2-50x2	L	.....	.....	W	114	32x4p-32x4p	1,900	60, 70	9
10	B	Y	.....	2, R	.....	C, E	P	½, ½	.....	8, 10	36x2-46x2	L	C. A. S.	.....	W	118	32x4p-32x4p	.....	.....	10
11	B, Std Pts, 3070	Y	B	2, R	10 , 12	C, E	P, Detroit	½, ½	Mather	7, 9	36x2-50x2½	L	Ross.	48, 0	W, Wayne.	125	34x4½p-35x5p	2,660	—, 80	11
12	I, Torbensen, OX2	Y	B	2, R	9¾, 10½	C, E	P, Savage	½, ½	Iron City	7, 9	36x2-48x2½	L	C.A.S.	44, 0	W, E & O.	124	32x4½p-32x4½p	2,800	50, 60	12
13	I	....	.....	2, R	.....			½, ½	Tuthill	.....	.....	....	.....	.....	W	120	34x4p-34x4p	.....	.....	13
14	I, Torbensen	....	.....	2, R	.....	C, E	P	½, ½	Spring Perch	.....	.....	L	Jacox	.....	W, Auto.	128	35x5p-35x5p	.....	.....	14
15	B, Own	....	.....	2, R	.....	E, E	R, Own	½, ½	Tuthill	.....	.....	L	Own	.....	.....	104	28x3p-28x3p	.....	.....	15
16	C, Sheldon	....	.....	2, R	.....			.....	Sheldon	.....	.....	....	.....	.....	W	96	34x2-36x2½	.....	.....	16
17	B, Own	N	B	2, R	10¾, 8¾	C, E	P, Smith	½, ½	Detroit	8, 11	38x2½-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940	50, 67	17
18	I, Own	....	B	2, R	10¾, 11¾	E, E	P	½, ½	.....	8, 10	41x2½-54x2½	L	Own	.....	W	115	36x3-36x3½	2,900	50, 64	18
19	I, Torbensen, OX2L	Y	S	2, R	12, 13	E, C	P	½, ½	Mather	6, 9	36x2-50x2	L	Lavine	.....	W, E & O.	118	32x4½p-32x4½p	2,200	65, 80	19
20	W, Own	Y	B	2, R	9¾, 10	E, E	P, Smith	½, ½	Mather	8, 10	36x2-50x2½	L	Jacox	50, 0	W, Prudden	135	34x4½p-34x4½p	2,900	52, 68	20
21	B, Salisbury	....	.....	2, R	.....	C, E	R, Own	½, ½	Spring Perch	.....	.....	L	C.A.S.	.....	W, Salisbury	112	33x4p-33x4p	.....	.....	21
22	I, Torbensen, OX2	Y	W	2, R	10¾, 12	C, E	P, Smith	½, ½	.....	7, 10	37x2-50x2½	L	Jacox	46, 0	W	128	35x5p-35x5p	2,580	55, 75	22
23	W, Empire, B	Y	B	2, R	13½, 12	E, E	P, Detroit	½, ½	Cooper	7, 12	38x2½-50x2½	L	C.A.S.	43, 4	W, Bimel.	128	35x5p-35x5p	2,800	42, 58	23
24	W, Timken 6352	Y	B	2, R	10 , 10½	E, E	P, Parish	½, ½	Perfection	8, 9	38x2-50x2½	L	Lavine	.....	W, Schwarz.	125	34x4½p-34x4½p	2,400	75, 75	24
25	B, Own	N	B	2, R	11¾, 9¾	C, E	P, Own	½, ½	Penn	.....	38x2-40x2½	L	Own	44, 0	W	128	34x4½p-34x4½p	2,615	43½, 62½	25
26	I, Clark, AS	Y	B	2, R	10 , 10	C, C	P, Hydraulic	½, ½	Detroit	6, 9	37½x2-48½x2½	L	C.A.S.	42, 0	W, Wayne.	110	32x4p-32x4p	2,190	53, 66⅔	26
27	B, Salisbury	....	.....	2, R	.....	E, E		½, ½	.....	.....	.....	....	.....	.....	W	115	33x4p-33x4p	.....	.....	27
28	I, Clark, AS	Y	B	2, R	.....	C, C	R, Mason	½, ½	Detroit	7, 10	42x2-54x2½	L	Gemmer	.....	W, Hayes	115	35x5p-35x5p	2,600	60, 80	28
29	W, Empire, B	Y	B	2, R	10½, 11	E, E	P, Parish	½, ½	Sheldon	8, 8	40x2½-50x2½	L	Lavine	.....	W, Hoopes	128	34x4½p-34x4½p	.....	.....	29
30	B, Own	N	B	2, R	9½, 9	C, E	P	½, ½	.....	.....	.....	L	Own	50, 4	W	133⅓	34x4½p-34x4½p	2,960	54, 70	30
31	W, Timken, 6352	Y	W	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	8, 12	40x2½-50x2½	L	Ross	.....	W, Bimel	142	36x3½-36x5	3,650	—, 73	31
32	W, Timken, 6352	Y	B	2, R	9 , 9½	E, E	P	½, ½	Detroit	7, 11	38x2½-52x2½	L	Ross	54, 0	W, Bimel	130	34x3½-34x5	3,200	50, 70	32
33	I, Torbensen	....	W, Powrlok	2, R	.....	C, E	P, Detroit	½, ½	Detroit	9, 13	38x2-54x2½	L	Ross	.....	W	130	32x4-32x4	.....	.....	33
34	I, Torbensen	Y	B	2, R	10½, 11¾	C, E	R	½, ½	Detroit	8, 11	36x2-52½x2½	L	Lavine	.....	W, Bimel	130	33x4p-32x3½	2,870	—, 66	34
35	I	Y	.....	2, R	.....			½, ½	.....	.....	40x2½-50x2½	L	.....	.....	W	132	34x4½p-36x6p	.....	.....	35
36	I, Clark	N	B	2, R	12 , 12	C, E	R, Savage	½, ½	Mather	7, 11	40x2½-52½x2½	L	Lavine	44, 0	W, E & O.	144	34x4½p-36x5	3,200	50, 75	36
37	I, Torbensen, A	Y	B	2, R	11 , 11¾	C, E	P	½, ½	Perfection	8, 10	39x2½-52x2½	L	Ross	54, 0	W, Schwarz.	124	34x3-34x4	2,910	47, 60	37
38	I, Russel	....	.....	2, R	.....	C, E	P, Parish	½, ½	Alloy	.....	.....	L	Lavine	.....	W, Hayes	121	33x4-34x3½	.....	.....	38
40	W, Timken, 6460	Y	B	2, R	10½, 11	E, E	R, Own	¼, ½	Mather	8, 9	40x2½-54x3	L	Gemmer	.....	W, Standard	132	36x3-36x4	3,800	60, 75	40
41	W, Std Pts, 602	N	B	2, R	11, 10	E, E	P, Parish & B	½, ½	Perfection	9, 7	36x2½-52x3	L	Ross	.....	W, Bimel	144	34x3½-34x5	3,500	51, 62	41
42	W	....	.....	2, R	.....	E, E	P	½, ½	.....	.....	.....	....	Ross	.....	.....	140	34x4-34x5	.....	.....	42
43	I, Russel, PI300	Y	B	2, R	.....	C, E	R, Own	½, ½	Perfection	8, 10	38x2½-48x3	L	Own	.....	W, St. Mary	120	34x3½-34x4	3,300	.....	43
44	I, Torbensen, A	Y	B	2, R	10 , 11½	C, E	P, Detroit	½, ½	Detroit	8, 10	36x2½-50x3	L	Jacox	46, 0	W, Bimel	126	34x3-34x5	2,900	.....	44
45	W, Wis., 800D	Y	W	2, R	10½, 9	E, E	R, Own	½, ½	Iron City	8, 10	36x2½-48x2½	L	Ross	50, 0	W, E & O.	128	34x3½-34x5	3,400	50, 65	45
46	W, Sheldon	Y	W	2, R	.....	E, E	R, Own	½, ½	Mather	8, 10	38x2½-50x2½	L	Ross	.....	W, Bimel	130	34x3½-34x4	.....	70, 70	46
47	W, Own	Y	B	2, R	10½, 10½	E, E	P, Savage	½, ½	Perfection	7, 11	37x2-54x2½	L	Ross	44, 0	W, Prudden	130	34x3½-34x5	3,200	50, 80	47
48	W, Sheldon, W1500	Y	B	2, R	10, 9¾	E, E	P, Savage	½, ½	Iron City	8, 12	40x2½-54x2½	L	Gemmer	46, 6	W, Jones	128	34x3½-34x4	3,250	50, 70	48
49	I, Russel, P	Y	B	2, R	10, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	43½x2½-48x2½	L	Ross	54, 0	W, Hayes	124	35x5p-36x6p	2,770	51, 73	49
50	I, Torbensen OX2L	Y	W	2, R	10, 12	C, C		½, ½	Rowland	8, 12	34½x2½-48x2½	L	Jacox	18, 0	W, Schwarz.	115	34x4½p-35x5p	2,400	—, 90	50
51	I, Clark	....	.....	2, R	.....	C, C	P, Savage	½, ½	Sheldon	.....	.....	L	Ross	.....	W, Bimel	120	36x3½-36x4	.....	.....	51
52	W, Timken, 6352	N	B	2, R	13 , 12	E, E	P	½, ½	Mather	7, 8	40x2½-52x2½	L	Gemmer	46, 9	S, Detroit	132	35x5p-36x6p	3,600	55, 70	52
53	W, Own	N	W	2, R	10¾, 8½	C, E	P, Parish & B	½t, ½t	Own	7, 9	31⅝x1½-16½x3	L	Own	46, 0	W	124	30x3p-32x3½	1,465	.....	53
54	I	....	.....	2, R	.....	C, C	P	.....	.....	.....	.....	....	.....	.....	W	.....	.....	.....	.....	54
55	W, Timken	....	.....	2, R	.....	E, E	P, Parish	½, ½	Merrill	.....	.....	L	Gemmer	.....	W, Standard	136	35x5p-35x5p	.....	.....	55
56	W, Timken, 6352	Y	W	2, R	12½, 11½	E, E	P	½, ½	Tuthill	8, 11	40x2½-52x2½	L	Ross	42, 0	W, Prudden	130	36x3½-36x4	3,200	50, 20	56
57	W, Sheldon, W1500	Y	B	2, R	13 , 9¾	E, E	P, Hydraulic	½, ½	Mather	6, 9	38x2-48x2½	R	Jacox	.....	W, Wayne	130	34x3½-34x5	2,950	50, 68	57
58	B, Own	N	B	2, R	10¾, 8¾	E, E	P	½, ½	Detroit	8, 11	38x2½-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940	50, 67	58
59	I, Torbensen	....	.....	2, R	.....		P, Parish	½, ½	Delaney	.....	.....	....	Lavine	.....	W	127	34x3-34x4	.....	.....	59
60	W, Timken	....	.....	2, R	.....	E, E	P, Parish & B	½, ½	Spring Perch	.....	.....	L	Gemmer	.....	W, Standard	136	35x5p-35x5p	.....	.....	60
61	W, Sheldon	....	.....	2, R	.....	E, E	P, Own	½, ½	Perfection	.....	.....	....	Lavine	.....	W, Prudden	115	35x5-35x5	.....	.....	61
62	W, Sheldon	....	.....	2, R	.....	E, E	P, Detroit	½, ½	Sheldon	.....	.....	....	Lavine	.....	W	120	32x4-33x4½	.....	.....	62
63	W, Chicago	....	.....	2, R	.....	E, E	P, Parish & B	½, ½	Iron City	.....	.....	L	Ross	.....	W, Wayne	128	34x3½-34x4	.....	.....	63
64	I, Own	....	B	2, R	10¾, 11½	E, E	P	.....	.....	10, 12	40½x2¼-54x2½	L	Own	.....	W	128	36x3½-36x4	3,000	50, 64	64
65	I, Russel, O	Y	S	2, R	11¼, 11½	C, E	P, Hydraulic	½, ½	Champion	9, 11	37x2¼-51½x2¼	L	C.A.S.	40, 0	W, Prudden	130	34x3½-34x4	3,400	20, 80	65
66	W, Timken, 6460	Y	W	2, R	9 , 9	E, E	R	½, ½	Betts	7, 11	44x2½-52x3	R	Ross	.....	W, W't'rh'se	130	34x3½-34x5	4,300	50, 75	66
67	W, Timken, 6352	N	B	2, R	.....	E, E	P, Parish	½, ½	Merrill	7, 10	40x2-52x2½	L	Ross	.....	W, Schwarz.	138	34x3½-34x5	3,500	47, 70	67
68	W, Timken, 6460	N	B	2, R	.....	E, E	R	½, ½	Tuthill	9, 12	39x2½-50x2½	L	Ross	.....	W, Standard	130	34x3½-34x4	3,600	.....	68
69	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	7, 8	36x2-50x3	L	C.A.S.	.....	W, E & O.	130	34x2½-34x4	2,850	50, 75	69
70	I, Clark, AS	N	B	2, R	14 , 14	C, C	R, Own	½, ½	Mather	8, 10	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-35x5p	3,200	50, 65	70
71	I, Clark, 1	Y	W	2, R	9¾, 9¾	C, C	P, Own	½, ½	Alloy	10, 12	37½x2¼-52x2½	L	Jacox	47, 0	W, Auto	130	34x3-34x4	3,400	44, 67½	71

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2,000 (National)—3,000 (Kearns) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horsepower.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carburetor.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	2,000 Pds.—Con.																			
72	National, FA	.....	Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C,McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	72
73	Noble, A20	.....	Buda	4	3¼x5½-22.5	...	Pierce	P	T, Chicago	...	Stromberg	...	M, Eisemann	...	M, Fuller	S, 3	Fuller	...	M & E.	73
74	Ogden, A1	.....	Continental, N.	4	3½x5-22.5	S	Pierce	P	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Acme	74
75	Palmer	1,585	Continental, N.	4	3½x5-22.5	FS	Pierce	P	C, Fedders	...	Stromberg	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	...	75
76	Rainier, R9	2,050	Continental, N.	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	76
77	Republic, 10	.....	Continental, N.	4	3½x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU½	N	Hartford	77
78	Royal	2,400	Wisconsin	4	3¼x5-16.9	...	Monarch	P	T, Kells	...	Stromberg	...	M, Bosch	...	P, Borg & B	I, 3	Own	...	...	78
79	Sandow, G	1,895	Continental, N.	4	3¾x5-19.5	S	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	Spicer	79
80	Service, 220	2,415	Buda, RU	4	3¼x5½-19.6	FS	N	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Arvac	80
81	Signal, F	2,750	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	81
82	Southern, 10	1,875	Buda, RU	4	3¼x5½-19.6	FS	Pierce	P	T, Standard	N	Zenith	...	M, Bosch	N	P, Borg & B	S, 4	Fuller	N	Spicer	82
83	Standard, 56	.....	Continental, N.	4	3½x5-22.5	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	83
84	Stewart, 12	1,655	Continental, N.	4	3¼x5-19.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Durston, 02800	N	Hartford	84
85	Superior, D	1,600	Continental, N.	4	3½x5-22.5	F	Pierce	T	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	Y	Arvac	85
86	Transport 20	1,850	Continental, N.	4	3½x5-22.5	FS	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	Hartford	86
87	Traylor, B	2,075	Buda, WU	4	3¼x5½-22.5	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N	...	87
88	Vim, 22	2,195	Hercules	4	3½x5½-22.5	F	N	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	88
88a	White Hickory, E	2,350	Continental, N.	4	3¼x5-22.5	FS	Simplex	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	M & E.	88a
88b	Wichita, K	2,350	Own	4	3¼x5-19.6	S	N	T	C, Perfex	Y	Stromberg	G	M	N	C	I, –	Cotta	N	Thermoid	88b
89	Wilcox, A	.....	Buda, QU	4	3¾x5½-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	...	89
90	Witt-Will, N	2,000	Continental	4	3¾x5-22.5	...	Pierce	P	C, Bremer	...	Zenith	...	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	...	Spicer	90
	2,500 Pounds:																			
91	Garford, 25	2,090	.....	4	3¾x5½-22.5	S	Monarch	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M	S, 3	.....	N	...	91
92	Hahn, C	1,950	Continental C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago	...	Stromberg	...	M, Bosch	...	M, Brown-L	S, 3	Brown-L	...	...	92
93	Indiana, 12	2,125	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	T, Long	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, G1	N	Acme	93
94	Koehler, C	1,985	Herc'l-Spil. 7000	4	3¼x5-19.6	F	Simplex	T	C, Gordon	Y	Zenith	G	M, Eisemann	N	P, Mechanics	S, 3	Mechanics, LU	N	Kinsler-B	94
95	Old Hickory, W	2,175	Continental, N.	4	3¼x5-22.5	FS	Pierce	...	T, Long	...	Stromberg	...	M, Eisemann	...	P, Borg & B	S, 3	Grant-Lees, 515	...	...	95
95a	Oneida, A9	2,350	Hi'kl'y, HAA300	4	3½x5½-22.5	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LTU	N	Peters	95a
96	Rock Falls, 9	3,500	Buda	6	3¼x5½-29.5	...	N	P	C, Sparks-W	...	Rayfield	...	M, Bosch	Y	P, Borg & B	S, 3	Grant-Lees	...	Spicer	96
	3,000 Pounds:																			
97	Acason, RB	2,650	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	C, National	Y	Marvel	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	97
98	Ace, C	2,750	Buda, WU	4	3¾x5½-22.5	F	Pierce	T	C, Modine	Y	Schebler	G	B, Westingh'e	Y	M, M & E	I, 3	Cotta, AA	N	M & E.	98
99	Acme, F	2,475	Continental, J4	4	3¾x5-22.5	F	Duplex	T	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 3	Cotta, BUC	N	Blood	99
99a	Aetna	2,775	Wisc., CAU	4	3½x5½-22.5	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, A	N	Spicer	99a
99b	All-American	2,195	Herschell-Spill'n	4	3¼x5-19.6	FS	...	T	...	...	Stromberg	...	M, Simms	...	M	I, 4	Cotta	...	...	99b
100	Apex, D	1,595	Buda, RU	4	3¼x5½-19.6	FS	N	T	C, Candler	N	Stromberg	G	B, Auto-Lite	N	M, Fuller	I, 4	Fuller, GU½	N	Detroit	100
100a	Available, H1½	2,550	Hercules, CU3	4	4x5½-25.6	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	I, 4	Cotta, A	N	M & E.	100a
101	Beck, A	1,750	Continental	4	3½x5-22.5	S	Pierce	T	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU½	Y	Blood	101
102	Bell	.....	Buda, CTU	4	3¼x5½-22.5	F	Duplex	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit, DX	Y	Universal	102
103	Bessemer, H2	2,445	Continental, N.	4	3½x5-22.5	S	Pierce	T	C, Standard	N	Zenith	G	M, Bosch	N	P, Borg & B	S, 3	Brown-L, 35	N	Arvac	103
104	Bethlehem, G	.....	Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Universal	104
105	Brockway, 82	2,100	Continental, N.	4	3½x5-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	105
106	Chicago, C1½	2,750	Hercules, CU3	4	3½x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	106
107	Clydesdale, 42	2,750	Continental, N.	4	3¼x5-22.5	S	Own	T	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	107
108	Collier, 19	.....	Continental	4	3¼x5-22.5	...	Monarch	P	...	...	Zenith	...	M, Eisemann	...	M, Fuller	S, 3	Fuller	...	...	108
109	Comet, 1-T-3	1,950	Lycoming	4	3¼x5-19.6	S	N	T	C, Standard	Y	Carter	G	B, Dyneto	Y	P, Borg & B	S, 3	Muncie, T25	Y	Arvac	109
110	Commerce, EP	2,255	Continental, N.	4	3½x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	110
111	Concord, A	2,350	Buda	4	3¼x5½-22.5	...	Monarch	P	T, Bush	...	Zenith	...	M, Eisemann	...	M, Brown-L	S, 3	Brown-Lipe	...	Spicer	111
112	Corbitt, D	2,600	Continental, N.	4	3¼x5-22.5	FS	Duplex	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	112
113	Dart, S	2,250	Buda, WU	4	3¼x5½-22.5	F	Pierce	T	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	Y	Spicer	113
114	Day-Elder, B	2,300	Continental, N.	4	3½x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	114
115	Dearborn, F	2,180	Continental, N.	4	3½x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU½	N	Hartford	115
116	Defiance, D	.....	Continental	4	3½x5-22.5	...	N	P	C, Perfex	...	Stromberg	...	...	Y	P, Borg & B	S, 3	Grant-Lees	...	...	116
117	Dependable, C	2,150	Buda, CTU	4	3¼x5½-22.5	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 3	Fuller, LTU	N	Acme	117
118	Diamond T, T	2,800	.....	4	3½x5½-22.5	F	.....	P	T, G & O	N	Stromberg	G	M, Bosch	N	M	S, 3	.....	N	So'd & Sp.	118
118a	Douglas, G	1,975	Weidely	4	3¼x5-22.5	F	.....	P	Own	...	Schebler	...	M, Eisemann	...	P, Borg & B	S, 3	Grant-Lees	...	Arvac	118a
119	Duplex, A	2,575	Hinkley, HAA	4	4x5½-25.6	FS	N	P	T, Modine	N	Stromberg	G	B	Y	M, Covert	S, 3	Covert, MUC	Y	Peters	119
120	Erie	.....	.....	4	4¼x5½-27.2	...	Pierce	T	...	...	Stromberg	...	M, Bosch	...	M	4	...	...	...	120
121	Fageol	.....	Lycoming, K	4	3¼x5-19.6	S	N	P	C, Modine	N	Zenith	DG	M, Dixie	N	P, Borg & B	S, 5	Own	Y	Detroit	121
122	Federal, TE	2,600	Continental, C4	4	4¼x5½-27.2	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit, TUE	N	Spicer	122
123	Forschler, AX	2,375	Continental	4	3¼x5-19.6	...	Duplex	P	T, Own	...	Zenith	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	Own	123
124	Gary, GT	2,550	Buda, TU	4	4x5½-25.6	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Blood	124
125	Giant, 15	2,425	Continental, N.	4	3½x5-22.5	FS	N	T	C, Ideal	N	Schebler	G,K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	125
126	GMC, 31A	2,650	Continental, N.	4	3½x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	126
127	Graham Brothers	2,495	Continental, N.	4	3½x5-22.5	FS	Monarch	T	T, Long	N	Stromberg	...	M, Eisemann	...	M, Fuller	S, 3	Fuller	N	Hartford	127
128	Gramm-B'nst'n, 15 (int.)	2 250	Continental, N.	4	3½x5-22.5	FS	N	T	T, Own	N	Stromberg	G	B, Northeast.	N	M, Fuller	S, 3	Fuller	N	Own	128
129	Gramm-B'nst'n 65(w'm)	2,775	Continental, N.	4	3½x5-22.5	FS	N	T	T, Own	Y	Stromberg	G	B, Northeast.	N	M, Fuller	I, 3	Own	N	Own	129
131	Grant, 17	.....	Continental, N.	4	3¾x5-22.5	FS	Pierce	T	C, Fedders	N	.....	G	M, Dixie	Y	M, Brown-L	S, 4	Brown-L, 35	N	.....	131
132	Harvey, WEA	2,550	Buda	4	4¼x5½-27.2	...	Monarch	P	T, Chicago	...	Zenith	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	Arvac	132
133	Hawkeye, K	2,150	Buda	4	3¼x5½-22.5	...	Simplex	P	T, Ideal	...	Zenith	...	M, Eisemann	...	M, Fuller	S, 3	Fuller	...	Hartford	133
134	Huffman, C (int.)	1,695	Continental	4	3¼x5-22.5	F	.....	T	C	...	Zenith	...	M, Dixie	...	M, Fuller	S, 3	Fuller	...	...	134
135	Huffman, B (worm)	1,895	Continental	4	3¼x5-22.5	F	.....	T	C	...	Zenith	...	B, Northeast.	...	M, Fuller	S, 3	Fuller	...	...	135
136	Hurlburt, A	2,850	Buda, IU	4	4x5½-25.6	FS	Duplex	P	T, Own	...	Flechter	...	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	...	...	136
137	Independent (Iowa)	1,890	Continental, N.	4	3¼x5-22.5	FS	...	...	T, Chicago	...	Stromberg	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	...	137
139	International, K	2,300	Own	4	3¼x5½-19.6	FS	Own	P	T, Long, McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	139
140	Jumbo, 15	.....	Buda, CTU	4	3¼x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast.	Y	M, Fuller	S, 3	Fuller, LTU-S	Y	Arvac	140
141	Kalamazoo, G	.....	Continental, J4	4	3½x5-22.5	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	141
142	Kearns, N	2,060	Herc'l-Spill. 7000	4	3¼x5-19.6	FS	Pierce	T	B, Bush	N	Zenith	G	M, Berling	N	P, Borg & B	S, 3	Grant-Lees, 515	Y	Peters	142

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TRUCK SPECIFICATIONS

2,000 (National)—3,000 (Kearns)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
72	W, Timken, 6352..	Y	W	2, R	10½, 10½	E, E	P.....	½, ½	Coghlin....	8, 10	40x2½-52x2½...	L	Ross.....	34, 0	W, Hayes..	136	34x3½-34x3½.....	3,350	.....	72
73	W, Sheldon.....	.....	.....	2, R	.....	E, E	P, Parish & B..	½, ½	Tuthill.....	.....	.....	L	Lavine.....	.....	W, Bimel...	144	36x3½-36x4.....	.....	.....	73
74	W, Timken, 6460..	Y	S	2, R	10 , 10	E, E	P, Garden City.	C, C	Tuthill.....	8, 10	38x2½-50x2½...	L	Gemmer.....	.....	W, Standard	136	36x3½-36x4.....	3,400	—, 70	74
75	I, Torbensen.....	.....	.....	2, R	.....	.....	P, Parish & B..	.....	Champion...	.....	.....	.....	Ross.....	.....	W.....	132	34x3½x34x4.....	.....	.....	75
76	W, Sheldon, W1500	Y	B	2, R	9½, 10	E E	P, Parish.....	½, ½	Perfection..	8, 13	38x2-50x2½....	L	Lavine.....	.....	W, Schwarz.	125	32x3½-32x4.....	2,750	75, 75	76
77	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Detroit.....	½, ½	Mather....	7, 11	39x2½-52½x2½..	L	Jacox.....	.....	W.....	124	34x3-34x4.....	2,925	.....	77
78	W, Timken.....	.....	.....	2, R	.....	E, E	R, Own.....	.....	Merrill.....	.....	.....	.....	Ross.....	.....	W.....	128	34x4-34x5.....	.....	.....	78
79	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage.....	¾, ¾	Garden City	7, 10	36x2½-52x2½...	L	Ross.....	48, 0	W, Standard	120	34x3½-34x5.....	3,300	20, 70	79
80	W, Timken, 6456..	Y	B	2, R	9¾, 9	E, E	P.....	½, ½	Mather....	8, 9	40x2½-50x2½...	L	Ross.....	42, 0	W, Bimel...	137	34x3½-34x5.....	3,470	—, 70	80
81	W, Timken, 6460..	N	B	2, R	11 , 11	E, E	P, Savage.....	½, ½	Detroit.....	10, 11	44x2½-56x3....	L	Ross.....	53, 0	W, Hayes..	144	34x3½-36x5.....	4,395	—, 70	81
82	W, Sheldon.....	Y	W	2, R	10 , 11	.....	P, Parish & B..	.....	Mather....	.....	38x2½-51x2½...	L	Ross.....	.....	W, Royer..	130	35x3p-35x5.....	.....	.....	82
83	W, Timken, 6352..	Y	B	2, R	10 , 11½	E, E	P, Parish.....	½, ½	Perfection..	.....	39½x2½-53½x2½..	L	Ross.....	.....	W.....	134	34x3½-34x4.....	3,220	58, 71	83
84	I, Clark, 1D.....	Y	B	2, R	10 , 10	C, C	P.....	½, ½	Detroit.....	8, 11	38½x2-50x2½...	L	Ross.....	45, 0	W, Wayne..	130	34x3½-34x4.....	2,820	53, 70	84
85	I, Torbensen, A...	Y	B	2, R	11 , 11½	C, E	P.....	½, ½	Tuthill.....	8, 11	37½x2-44x2½...	L	C.A.S....	36, 0	W, Schwarz.	124	34x4½p-34x5p.....	2,950	75, —	85
86	I, Clark, 1D.....	Y	B	2, R	10½, 11½	C, E	P, Detroit.....	½, ½	Detroit.....	8, 10	39x2½-52½x2½...	L	Jacox.....	.....	W.....	130	35x5p-36x6p.....	3,100	50, 70	86
87	W, Sheldon, W1501	Y	W	2, R	.....	E, E	P, Savage.....	½, ½	.....	.....	36x2½-48x2½...	L	Ross.....	.....	W, Schwarz.	132	34x3½-34x5.....	3,500	.....	87
88	W, Sheldon, W1501	Y	W	2, R	12½, 11	E, E	P.....	½, ½	Sheldon....	9, 12	40x2½-54x2½...	L	Jacox.....	35, 0	W, Hoopes..	125	35x5p-35x5p.....	3,350	40, 70	88
88a	W, Timken, 6352..	Y	W	2, R	11½, 11½	E, E	P, Parish & B..	½, ½	Sheldon....	8, 10	38x2-52x2½....	L	Lavine...	44, 0	W, Bimel...	124	35x5p-35x5p.....	3,150	.....	88a
88b	W, Sheldon.....	Y	W	2, R	10½, 10¾	E, E	P, Own.....	½, ½	Detroit.....	.....	.....	R	Ross.....	.....	W.....	144	36x3-36x4.....	.....	.....	88b
89	W, Wis., 800D....	Y	B	2, R	.....	E, E	P.....	½, ½	Sheldon....	9, 11	36x2½-50x2½...	L	Gemmer.....	.....	I, Smith....	130	35x5p-35x5p.....	3,600	25, 75	89
90	W, Timken.....	.....	.....	2, R	.....	E, E	P, Parish.....	½, ½	Delaney.....	.....	.....	L	Ross.....	.....	W, Archibald	120	36x3½-36x4.....	.....	.....	90
91	W.....	Y	B	2, R	.....	E, E	P.....	½, ½	.....	8, 8	42x2½-50x2½...	L	Ross.....	50, 0	W.....	135	36x3½-36x4.....	3,900	.....	91
92	W, Timken.....	.....	.....	2, R	.....	.....	P, Parish.....	.....	Delaney.....	.....	.....	.....	Lavine.....	.....	.....	135	36x3½-36x5.....	.....	.....	92
93	W, Sheldon, W1501	N	B	2, R	10 , 8½	E, E	R, Illinois.....	F, ½	Sheldon....	8, 9	38x2-50x2½....	L	Wohlrab..	44, 0	W, Bimel...	134	34x3½-34x5.....	4,100	55, 65	93
94	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Parish & B..	½, ½	Mather....	8, 13	38x2½-54x2½...	L	Own.....	.....	W, Wayne..	131	34x3-34x5.....	3,300	.....	94
95	W, Timken, 6453..	.....	.....	2, R	.....	E, E	R, Own.....	½, ½	Standard....	.....	.....	.....	Lavine.....	.....	W, Standard	135	36x3½-36x4.....	.....	.....	95
95a	W, Wisc., 800G...	Y	B	2, R	.....	E, E	P, Detroit.....	½, ½	Mather....	8, 10	40x2¼-54x3	L	.....	.....	W.....	135	36x3½-36x5.....	4,350	60, 85	95a
96	B, Columbia.....	.....	.....	2, R	.....	C, E	P, Smith.....	½, ½	Tuthill.....	.....	.....	L	Gemmer.....	.....	W, Mutual.	150	35x5p-35x5p.....	.....	.....	96
97	W, Timken, 6460..	Y	W	2, R	11 , 11	E, E	P, Savage.....	½, ½	Detroit.....	8, 12	40x2½-50x2½...	L	Ross.....	.....	W, Bimel...	142	36x3½-36x6.....	3,800	—, 74	97
98	W, Timken, 6460..	Y	W	2, R	10 , 11	E, E	P, Parish & B..	½, ½	Mather....	9, 9	39½x2½-53½x3..	L	Ross.....	.....	W, Schwarz.	144	36x6p-38x7p.....	4,750	50, 80	98
99	W, Timken, 6460..	Y	B	2, R	9 , 9½	E, E	P.....	½, ½	Detroit.....	8, 12	38x2½-52x2½...	L	Ross.....	54, 0	W, Bimel...	141	34x3½-34x5.....	3,700	50, 70	99
99a	W, Sheldon, W103	N	.....	2, R	.....	E, E	R.....	½, ½	Sheldon....	9, 13	38x2½-52x3....	L	Ross.....	.....	W.....	144	36x3½-36x5.....	.....	50, 70	99a
99b	I, Torbensen.....	.....	W, Powrlok	2, R	.....	E, E	P.....	½, ½	.....	10, 12	40x2½-54x2....	.....	.....	.....	W.....	144	34x4-34x5.....	.....	.....	99b
100	I, Torbensen.....	Y	B	2, R	10½, 11½	C, E	R.....	½, ½	Detroit.....	8, 12	36x2-52½x2½...	L	Lavine.....	.....	W, Bimel...	130	32x3½-32x4.....	3,070	—, 66	100
100a	W, Wisconsin.....	N	B	2, R	9½, 9½	E, E	R, Own.....	½, ½	Tuthill.....	8, 10	40x2½-50x3	L	Ross.....	42, 0	W, St. Mary's	152	36x3½-36x5.....	4,000	55, 75	100a
101	I, Clark, 1B.....	N	B	2, R	14 , 13	C, E	P, Parish & B..	½, ½	Higgins....	7, 12	40x2½-52x2½...	L	Lavine...	48, 0	W, Bimel...	132	35x5-35x5.....	2,800	30, 75	101
102	I, Russel	Y	B	2, R	12 , 13	C, E	R, Own.....	½, ½	Detroit	7, 12	40x2-54x2½....	L	Gemmer..	52, 0	W, Bimel...	132	32x3½x32x4.....	3,500	50, 70	102
103	I, Torbensen, C...	N	B	2, R	11 , 12	C, E	P.....	½, ½	Perfection..	8, 11	39x2½-56x3	L	Ross.....	54, 0	W, Schwarz.	144	36x3½-36x5.....	3,600	53, 65	103
104	I, Russel, PI300 ..	Y	B	2, R	10¼, 11½	C, E	P, Detroit.....	½, ½	Mather	9, 10	40x2½-52½x3....	L	Lavine...	48, 0	W, Wayne..	135	34x3½-34x5.....	3,520	—, 90	104
105	W, Sheldon, W1501	N	B	2, R	.....	E, E	P, Parish & B..	½, ½	Sheldon....	7, 10	39x2½-48x3....	L	Gemmer.....	.....	W, Hoopes.	140	36x3½-36x5.....	3,550	52, 74	105
106	W, Timken, 6460..	Y	B	2, R	10½, 11	E, E	R.....	½, ½	Mather....	8, 11	40x2½-54x3....	L	Gemmer.....	.....	W, Standard	144	36x3½-36x5.....	3,900	60, 75	106
107	W, Timken, 6460..	N	B	2, R	10½, 10	E, E	P, Parish & B..	½, ½	Perfection..	9, 9	36x2½-52x3....	L	Ross.....	.....	W, Bimel...	146	36x3½-36x6.....	3,750	51, 78	107
108	W.....	.....	.....	2, R	.....	E, E	P.....	½, ½	.....	.....	.....	.....	Ross.....	.....	.....	144	36x4-36x6.....	.....	.....	108
109	B, Standard, C....	Y	B	2, R	10 , 12	C, E	P.....	½, ½	Marathon..	7, 12	36½x2-50½x3...	L	Gemmer..	56, 0	W, Moline..	130	33x4p-33x4.....	3,240	60, 70	109
110	I, Torbensen, A...	Y	B	2, R	11, 12½	C, E	P, Detroit.....	½, ½	Detroit.....	8, 11	36x2½-50x3....	L	Jacox.....	50, 0	W, Bimel...	134	36x6p-36x6p.....	3,200	.....	110
111	W, Timken.....	.....	.....	2, R	.....	E, E	P, Parish & B..	½, ½	Spring Perch	.....	.....	L	Ross.....	.....	W, Crane..	140	36x3½-36x5.....	.....	.....	111
112	W, Sheldon.....	Y	W	2, R	.....	E, E	R, Own.....	½, ½	Mather....	9, 11	38x2½-50x2½...	L	Ross.....	.....	W, Bimel...	136	36x3½-36x5.....	.....	.....	112
113	W, Own	Y	B	2, R	10½, 10½	F, F	P, Savage.....	½, ½	Perfection..	7, 11	37x2-54x2½....	L	Ross.....	44, 0	W, Prudden	140	34x3½-34x5.....	3,300	50, 80	113
114	W, Sheldon, W1501	Y	B	2, R	10, 10	E, E	P, Savage.....	½, ½	Iron City...	9, 13	40x2½-54x2½...	L	Gemmer..	51, 9	W, Jones...	144	34x3½-34x5.....	3,500	50, 70	114
115	W, Chicago, C....	Y	B	2, R	10, 12	E, E	P, Own.....	½, ½	Maremont..	7, 9	35x2½-52x2½...	L	Lavine...	42, 0	W, Crane..	126	34x4-34x5.....	3,280	50, 75	115
116	I, Torbensen.....	.....	.....	2, R	.....	E, E	P, Detroit.....	½, ½	Detroit.....	.....	.....	L	.....	.....	W, Crane..	140	35x5-36x6.....	.....	.....	116
117	W, Wisc., 800H...	Y	W	2, R	10, 10	E, E	P.....	½, ½	Perfection..	9, 11	40x2½-48x2½...	L	Ross.....	54, 0	W, Bimel...	128	34x5-34x5.....	4,120	40, 70	117
118	W.....	Y	W	2, R	.....	E, E	P.....	½, ½	Mather....	8, 10	40x2½-53x2½...	L	Gemmer.....	.....	W, Prudden	144	36x3½-36x5.....	4,000	50, 90	118
118a	I, Torbensen.....	.....	.....	.....	.....	.....	.....	.....	Own.....	.....	.....	.....	Ross.....	.....	.....	127	34x3½-34x5.....	3,725	.....	118a
119	W, Sheldon.....	Y	B	2, R	11, 11½	E, E	P, Parish & B..	½, ½	Penn.....	9, 9	39x2½-50x2½...	L	Ross.....	.....	W, Prudden.	145	35x5p-38x7p.....	.....	.....	119
120	W, Timken.....	.....	.....	2, R	.....	.....	P.....	.....	.....	.....	.....	.....	Ross.....	.....	.....	144	34x3½-36x5.....	.....	.....	120
121	W, Standard, 603.	Y	B	2, R	10¼, 10	E, E	R, Own.....	½, ½	Mather....	8, 11	41x2½-56x3....	L	Ross.....	.....	W, Prudden.	136	34x3½-34x6.....	3,500	50, 70	121
122	W, Timken, 6560..	N	B	2, R	12½, 9	E, E	P.....	½, ½	Mather....	9, 9	40x2½-54x3....	L	Gemmer..	46, 3	W, Auto....	144	36x3½-36x5.....	4,250	56, 69	122
123	W, Sheldon.....	.....	.....	2, R	.....	E, E	R, Own.....	½, ½	Own.....	.....	.....	.....	Ross.....	.....	I, Smith....	120	36x3½-36x5.....	.....	.....	123
124	W, Timken, 6460..	Y	W	2, R	12, 10¼	E, E	P.....	½, ½	Tuthill.....	9, 12	44x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	142	36x3½-36x5.....	3,800	50, 20	124
125	W, Sheldon, W-1500	Y	B	2, R	13, 9½	E, E	P, Hydraulic..	½, ½	Mather....	6, 11	38x2-48x2½....	R	Jacox.....	.....	W, Wayne..	138	34x3½-34x5.....	3,600	55, 75	125
126	W, Timken, 6460..	N	B	2, R	10¾, 9½	E, E	P, Smith.....	½, ½	Detroit.....	8, 10	36x2½-54x3....	L	Jacox.....	51, 0	W.....	130	36x3½-36x5.....	4,205	55, 74	126
127	I, Torbensen.....	Y	B	2, R	11, 12½	C, C	P, Detroit.....	½, ½	Detroit.....	9, 12	42x2½-52x3....	L	Lavine...	48, 0	S, Disteel..	133	35x5p-36x6p.....	3,400	..,80	127
128	I, Clark.....	Y	B	2, R	11, 11	C, E	P, Own.....	½, ½	Perfection..	10, 11	40x2½-52x2½...	L	Ross.....	51, 0	W, Bimel...	138	36x3½-36x5.....	3,800	69, 90½	128
129	W, Standard.....	Y	B	2, R	11,	E, E	P.....	½, ½	Perfection..	10, 11	40x2½-52x2½...	L	Ross.....	51, 0	W, Bimel...	138	36x3½-36x5.....	4,200	69, 90½	129
131	I, Torbensen, A...	Y	B	2, R	10, 10½	C, E	P.....	½, ½	Perfection..	11, 12	42x2¼-50x2½...	L	Jacox.....	45, 0	W, Royer...	140	35x5p-38x7p.....	3,450	47½, 67	131
132	W, Sheldon.....	.....	.....	.....	.....	E, E	P, Own.....	.....	Sheldon....	.....	.....	L	Ross.....	.....	W, Schwarz.	128	34x3½-34x5.....	.....	.....	132
133	I, Clark.....	.....	.....	2, R	.....	C, E	R, Own.....	½, ½	Detroit.....	.....	.....	L	Ross.....	.....	W, Bimel...	148½	34x3½-34x5.....	.....	.....	133
134	I, Torbensen.....	.....	.....	2, R	.....	C, E	P.....	½, ½	Perfection..	.....	.....	.....	Lavine.....	.....	W.....	140	34x3½-34x5.....	.....	.....	134
135	W.....	.....	.....	2, R	.....	E, E	P.....	½, ½	Perfection..	.....	.....	.....	Lavine.....	.....	W.....	140	34x3½-34x5.....	.....	.....	135
136	W, Hindley.....	.....	.....	2, R	.....	E, C	P, Savage.....	½, ½	Perfection..	.....	.....	.....	Ross.....	.....	W, Wayne..	148	34x4-34x5.....	.....	.....	136
137	I, Torbensen.....	.....	.....	2, R	.....	C, E	P.....	½, ½	.....	.....	.....	.....	Lavine.....	.....	W.....	135	34x3½-34x5.....	.....	.....	137
139	I, Own.....	.....	B	2, R	10½, 11½	E, E	P.....	½, ½	.....	10, 14	41½x2½-56x3....	L	Own.....	.....	W.....	128	36x3½-36x5.....	3,400	50, 67	139
140	I, Clark, 1D.....	Y	B	2, R	11, 13½	C, E	P.....	½, ½	Perfection..	9, 11	40x2½-52x2½...	L	Jacox.....	35, 0	W.....	144½	36x3½-36x5.....	3,600	50, 75	140
141	W, Wisc., 800F...	N	W	2, R	9, 9½	E, E	R.....	½, ½	Sheldon....	6, 11	40x2½-50x2½...	L	Ross.....	51, 8	W, Bimel...	144	36x4-36x5.....	5,080	—, 80	141
142	I, Torbensen, B...	Y	S	2, R	14, 11	E, E	P.....	½, ½	Mather....	6, 9	42x2½-52x3....	L	Lavine.....	.....	W, F & O.	136	34x3½-34x6.....	3,620	68, 80	142

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2,000 (National)—3,000 (Kearns) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	2,000 Pds.—Con.																			
72	National, FA	.....	Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C,McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	72
73	Noble, A20	.....	Buda	4	3¾x5½-22.5	..	Pierce	P	T, Chicago	..	Stromberg	..	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	M & E.	73
74	Ogden, A1	.....	Continental, N.	4	3¾x5-22.5	S	Pierce	T	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Acme	74
75	Palmer	1,585	Continental, N.	4	3¾x5-22.5	FS	Pierce	T	C, Fedders	..	Stromberg	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	..	75
76	Rainier, R9	2,050	Continental, N.	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	76
77	Republic, 10	.....	Continental, N.	4	3¾x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	77
78	Royal	2,400	Wisconsin	4	3¾x5-16.9	..	Monarch	P	T, Kells	..	Stromberg	..	M, Bosch	..	P, Borg & B	I, 3	Own	..	..	78
79	Sandow, G	1,895	Continental, N.	4	3¾x5-19.5	S	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	79
80	Service, 220	2,415	Buda, RU	4	3¾x5½-19.6	FS	N	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Arvac	80
81	Signal, F	2,750	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	81
82	Southern, 10	1,875	Buda, RU	4	3¾x5½-19.6	FS	Pierce	T	T, Standard	N	Zenith	..	M, Bosch	N	P, Borg & B	S, 4	Fuller	N	Spicer	82
83	Standard, 56	.....	Continental, N.	4	3¾x5-22.5	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	83
84	Stewart, 12	1,655	Continental, N.	4	3¾x5-19.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Durston, 02800	N	Hartford	84
85	Superior, D	1,600	Continental, N.	4	3¾x5-22.5	F	Pierce	T	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	Y	Arvac	85
86	Transport 20	1,850	Continental, N.	4	3¾x5-22.5	FS	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	86
87	Traylor, B	2,075	Buda, WU	4	3¾x5½-22.5	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N	..	87
88	Vim, 22	2 195	Hercules	4	3¾x5½-22.5	F	N	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	88
88a	White Hickory, E	2,350	Continental, N.	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	M & E	88a
88b	Wichita, K	2,350	Oan	4	3¾x5-19.6	S	N	T	C, Perfex	Y	Stromberg	G	M	N	C	I, –	Cotta	N	Thermoid	88b
89	Wilcox, A	.....	Buda, QU	4	3¾x5½-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	..	89
90	Witt-Will, N	2,000	Continental	4	3¾x5-22.5	..	Pierce	P	C, Bremer	..	Zenith	..	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	..	Spicer	90
	2,500 Pounds:																			
91	Garford, 25	2,000	..	4	3¾x5½-22.5	S	Monarch	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M	S, 3	..	N	..	91
92	Hahn, C	1,950	Continental C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago	..	Stromberg	..	M, Bosch	..	M, Brown-L	S, 3	Brown-L	..	..	92
93	Indiana, 12	2,125	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	T, Long	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, G1	N	Acme	93
94	Koehler, C	1,985	Hers'l-Spil. 7000	4	3¾x5-19.6	F	Simplex	T	C, Gordon	Y	Zenith	G	M, Eisemann	N	P, Mechanics	S, 3	Mechanics, LU	N	Kinsler-B	94
95	Old Hickory, W	2,175	Continental, N.	4	3¾x5-22.5	FS	Pierce	T	T, Long	..	Stromberg	..	M, Eisemann	..	P, Borg & B	S, 3	Grant-Lees, 515	..	..	95
95a	Oneida, A9	2,350	Hi'kl'y, HAA300	4	3¾x5½-22.5	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LTU	N	Peters	95a
96	Rock Falls, 9	2,500	Buda	6	3¾x5½-29.5	..	N	P	C, Sparks-W	..	Rayfield	..	M, Bosch	Y	P, Borg & B	S, 3	Grant-Lees	..	Spicer	96
	3,000 Pounds:																			
97	Acasco, RB	2,650	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	C, National	Y	Marvel	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	97
98	Ace, C	2,750	Buda, WU	4	3¾x5½-22.5	F	Pierce	T	C, Modine	Y	Schebler	G	B, Westingh'e	Y	M, M & E	I, 3	Cotta, AA	N	M & E	98
99	Acme, F	2,475	Continental, J4	4	3¾x5-22.5	F	Duplex	T	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 3	Cotta, BUC	N	Blood	99
99a	Aetna	2,775	Wisc., CAU	4	3¾x5½-22.5	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, A	N	Spicer	99a
99b	All-American	2,195	Herschell-Spill'n	4	3¾x5-19.6	FS	..	T	..	..	Stromberg	..	M, Simms	..	M	I, 4	Cotta	..	..	99b
100	Apex, D	1,595	Buda, RU	4	3¾x5½-19.6	FS	N	T	C, Candler	N	Stromberg	G	B, Auto-Lite	N	M, Fuller	I, 4	Fuller, GU¾	N	Detroit	100
100a	Available, H1½	2,550	Hercules, CU3	4	4x5½-25.6	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M. Brown-L	I, 4	Cotta, A	N	M & E	100a
101	Beck, A	1,750	Continental	4	3¾x5-22.5	S	Pierce	T	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	Y	Blood	101
102	Bell	.....	Buda, CTU	4	3¾x5½-22.5	F	Duplex	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit, DX	Y	Universal	102
103	Bessemer, H2	2,445	Continental, N.	4	3¾x5-22.5	S	Pierce	T	C, Standard	N	Zenith	G	M, Bosch	N	P, Borg & B	S, 3	Brown-L, 35	N	Arvac	103
104	Bethlehem, G	.....	Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Universal	104
105	Brockway, 82	2,100	Continental, N.	4	3¾x5-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	105
106	Chicago, C1½	2,750	Hercules, CU2	4	3¾x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	106
107	Clydesdale, 42	2,750	Continental, N.	4	3¾x5-22.5	S	Own	T	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	107
108	Collier, 19	.....	Continental	4	3¾x5-22.5	..	Monarch	P	..	..	Zenith	..	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	..	108
109	Comet, 1-T-2	1,950	Lycoming	4	3¾x5-19.6	S	N	T	C, Standard	Y	Carter	G	B, Dyneto	Y	P, Borg & B	S, 3	Muncie, T25	Y	Arvac	109
110	Commerce, EP	2,255	Continental, N.	4	3¾x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	110
111	Concord, A	2,350	Buda	4	3¾x5½-22.5	..	Monarch	P	T, Bush	..	Zenith	..	M, Eisemann	..	M, Brown-L	S, 3	Brown-Lipe	..	Spicer	111
112	Corbitt, D	2,600	Continental, N.	4	3¾x5-22.5	FS	Duplex	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	112
113	Dart, S	2,250	Buda, WU	4	3¾x5½-22.5	F	Pierce	T	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	Y	Spicer	113
114	Day-Elder, B	2,300	Continental, N.	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	114
115	Dearborn, F	2,180	Continental, N.	4	3¾x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	115
116	Defiance, D	.....	Continental	4	3¾x5-22.5	..	N	P	C, Perfex	..	Stromberg	..	..	Y	P, Borg & B	S, 3	Grant-Lees	..	..	116
117	Dependable, C	2,150	Buda, CTU	4	3¾x5½-22.5	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 3	Fuller, LTU	N	Acme	117
118	Diamond T, T	2,800	..	4	3¾x5½-22.5	F	..	P	T, G & O	N	Stromberg	G	M, Bosch	N	M	S, 3	..	N	Sn'd & Sp.	118
118a	Douglas, G	1,975	Weidely	4	3¾x5-22.5	F	..	P	Own	..	Schebler	..	M, Eisemann	..	P, Borg & B	S, 3	Grant-Lees	..	Arvac	118a
119	Duplex, A	2,575	Hinkley, HAA	4	4x5½-25.6	FS	N	P	T, Modine	N	Stromberg	G	B	Y	M, Covert	S, 3	Covert, MUC	Y	Peters	119
120	Erie	.....	..	4	4¼x5½-27.2	..	Pierce	T	..	..	Stromberg	..	M, Bosch	..	M	4	..	..	..	120
121	Fageol	.....	Lycoming, K	4	3¾x5-19.6	S	N	P	C, Modine	N	Zenith	DG	M, Dixie	N	P, Borg & B	S, 5	Own	Y	Detroit	121
122	Federal, TE	2,600	Continental, C4	4	4¼x5½-27.2	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit, TUE	N	Spicer	122
123	Forschler, AX	2,375	Continental	4	3¾x5-19.6	..	Duplex	P	T, Own	..	Zenith	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	Own	123
124	Gary, GT	2,550	Buda, TU	4	4x5½-25.6	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Blood	124
125	Giant, 15	2,425	Continental, N.	4	3¾x5-22.5	FS	N	T	C, Ideal	N	Schebler	G,K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	125
126	GMC, 31A	2,650	Continental, N.	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	126
127	Graham Brothers	2,495	Continental, N	4	3¾x5-22.5	FS	Monarch	T	T, Long	N	Stromberg	..	M, Eisemann	..	M, Fuller	S, 3	Fuller	N	Hartford	127
128	Gramm-B'nst'n, 15 (int.)	2 250	Continental, N.	4	3¾x5-22.5	FS	N	T	T, Own	N	Stromberg	G	B, Northeast.	N	M, Fuller	S, 3	Fuller	N	Own	128
129	Gramm-B'nst'n, 65(w'm)	2,775	Continental, N.	4	3¾x5-22.5	FS	N	T	T, Own	Y	Stromberg	G	B, Northeast.	N	M, Fuller	I, 3	Own	N	Own	129
131	Grant, 17	..	Continental, N.	4	3¾x5-22.5	FS	Pierce	T	C, Fedders	N	..	G	M, Dixie	Y	M, Brown-L	S, 4	Brown-L, 35	N	..	131
132	Harvey, WEA	2,550	Buda	4	4¼x5½-27.2	..	Monarch	P	T, Chicago	..	Zenith	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	Arvac	132
133	Hawkeye, K	2,150	Buda	4	3¾x5½-22.5	..	Simplex	P	T, Ideal	..	Zenith	..	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	Hartford	133
134	Huffman, C (int.)	1,695	Continental	4	3¾x5-22.5	F	..	T	C	..	Zenith	..	M, Dixie	..	M, Fuller	S, 3	Fuller	..	..	134
135	Huffman, B (worm)	1,895	Continental	4	3¾x5-22.5	F	..	T	C	..	Zenith	..	B, Northeast.	..	M, Fuller	S, 3	Fuller	..	..	135
136	Hurlburt, A	2,850	Buda, IU	4	4x5½-25.6	FS	Duplex	P	T, Own	..	Flechter	..	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	..	..	136
137	Independent (Iowa)	1,890	Continental, N.	4	3¾x5-22.5	FS	..	..	T, Chicago	..	Stromberg	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	..	137
139	International, K	2,300	Own	4	3¾x5½-19.6	FS	Own	P	T, Long, McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	139
140	Jumbo, 15	.....	Buda, CTU	4	3¾x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast.	Y	M, Fuller	S, 3	Fuller, LTU-S	Y	Arvac	140
141	Kalamazoo, G	.....	Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	141
142	Kearns, N	2,000	Hers'l-Spill. 7000	4	3¾x5-19.6	FS	Pierce	T	B, Bush	N	Zenith	G	M, Berling	N	P, Borg & B	S, 3	Grant-Lees, 515	Y	Peters	142

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TRUCK SPECIFICATIONS

2,000 (National)—3,000 (Kearns)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
72	W, Timken, 6352..	Y	W	2, R	10½, 10½	E, E	P.....	½, ½	Coghlin....	8, 10	40x2½-52x2½...	L	Ross.....	34, 0	W, Hayes..	136	34x3½-34x3½	3,350	.....	72
73	W, Sheldon.....	.....	.....	2, R	.....	E, E	P, Parish & B..	½, ½	Tuthill....	.....	.....	L	Lavine....	.....	W, Bimel...	144	36x3½-36x4.....	.....	.....	73
74	W, Timken, 6460..	Y	S	2, R	10 , 10	E, E	P, Garden City.	C, C	Tuthill....	8, 10	38x2½-50x2½...	L	Gemmer..	.....	W, Standard	136	36x3½-36x4.....	3,400	—, 70	74
75	I, Torbensen.....	.....	.....	2, R	.....	.....	P, Parish & B..	.....	Champion..	.....	.....	.....	Ross.....	.....	W.....	132	34x3½x34x4.....	.....	.....	75
76	W,Sheldon, W1500	Y	B	2, R	9½, 10	E E	P ,Parish.....	½, ½	Perfection..	8, 13	38x2-50x2½....	L	Lavine....	.....	W, Schwarz.	125	32x3½-32x4.....	2,750	75, 75	76
77	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Detroit.....	½, ½	Mather....	7, 11	39x2½-52½x2½..	L	Jacox.....	.....	W.....	124	34x3-34x4.....	2,925	.....	77
78	W, Timken.....	.....	.....	2, R	.....	E, E	R, Own.....	.....	Merrill.....	.....	.....	.....	Ross.....	.....	W.....	128	34x4-34x5.....	.....	.....	78
79	W,Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage.....	¾, ¾	Garden City	7, 10	36x2½-52x2½...	L	Ross.....	48, 0	W, Standard	120	34x3½-34x5.....	3,300	20, 70	79
80	W, Timken, 6456..	Y	B	2, R	9½, 9	E, E	P.....	½, ½	Mather....	8, 9	40x2½-50x2½...	L	Ross.....	42, 0	W, Bimel...	137	34x3½-34x5.....	3,470	—, 70	80
81	W, Timken, 6460..	N	B	2, R	11 , 11	E, E	P, Savage.....	½, ½	Detroit....	10, 11	44x2½-56x3....	L	Ross.....	53, 0	W, Hayes..	144	34x3½-36x5.....	4,395	—, 70	81
82	W, Sheldon.....	Y	W	2, R	10 , 11	.....	P, Parish & B..	.....	Mather.....	.....	38x2½-51x2½...	L	Ross.....	.....	W, Royer...	130	35x3p-35x5.....	.....	.....	82
83	W, Timken, 6352..	Y	B	2, R	10 , 11½	E, E	P, Parish.....	½, ½	Perfection..	.....	39½x2½-53½x2½.	L	Ross.....	.....	W.....	134	34x3½-34x4.....	3,220	58, 71	83
84	I, Clark, 1D.....	Y	B	2, R	10 , 10	C, C	P.....	½, ½	Detroit....	8, 11	38½x2-50x2½...	L	Ross.....	45, 0	W, Wayne..	130	34x3½-34x4.....	2,820	53, 70	84
85	I, Torbensen, A...	Y	B	2, R	11 , 11½	C, E	P.....	½, ½	Tuthill....	8, 11	37½x2-44x2½...	L	C.A.S....	36, 0	W, Schwarz.	124	34x4½p-34x5p.....	2,950	75, —	85
86	I, Clark, 1D	Y	B	2, R	10½, 11½	C, E	P, Detroit.....	½, ½	Detroit.....	8, 10	39x2½-52½x2½..	L	Jacox.....	.....	W.....	130	35x5p-36x6p.....	3,100	50, 70	86
87	W,Sheldon, W1501	Y	W	2, R	.....	E, E	P, Savage.....	½, ½	.....	.....	36x2½-48x2½...	L	Ross.....	.....	W,Schwarz.	132	34x3½-34x5.....	3,500	.....	87
88	W,Sheldon, W1501	Y	W	2, R	12½, 11	E, E	P.....	½, ½	Sheldon....	9, 12	40x2½-54x2½...	L	Jacox....	35, 0	W,Hoopes..	125	35x5p-35x5p.....	3,350	40, 70	88
88a	W Timken, 6352..	Y	W	2, R	11½, 11½	E, E	P, Parish & B..	½, ½	Sheldon....	8, 10	38x2-52x2½....	L	Lavine....	44, 0	W, Bimel...	124	35x5p-35x5p.....	3,150	.....	88a
88b	W, Sheldon.....	Y	W	2, R	10½, 10½	E, E	P, Own.....	½, ½	Detroit....	.....	.....	R	Ross.....	.....	W.....	144	36x3-36x4.....	.....	.....	88b
89	W, Wis., 800D....	Y	B	2, R	.....	E, E	P.....	½, ½	Sheldon....	9, 11	36x2½-50x2½...	L	Gemmer..	.....	I, Smith....	130	35x5p-35x5p.....	3,600	25, 75	89
90	W, Timken.....	.....	.....	2, R	.....	E, E	P, Parish.....	½, ½	Delaney....	.....	.....	L	Ross.....	.....	W,Archibald	120	36x3½-36x4.....	.....	.....	90
91	W.....	Y	B	2, R	.....	E, E	P.....	½, ½	.....	8, 8	42x2½-50x2½...	L	Ross.....	50, 0	W.....	135	36x3½-36x4.....	3,900	.....	91
92	W, Timken.....	.....	.....	2, R	.....	.....	P, Parish.....	.....	Delaney....	.....	.....	.....	Lavine....	.....	.....	135	36x3½-36x5.....	.....	.....	92
93	W,Sheldon, W1501	N	B	2, R	10 , 8½	E, E	R, Illinois....	F, ½	Sheldon....	8, 9	38x2-50x2½...	L	Wohlrab..	44, 0	W, Bimel...	134	34x3½-34x5.....	4,100	55, 65	93
94	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Parish & B..	½, ½	Mather....	8, 13	38x2½-54x2½...	L	Own	.....	W, Wayne..	131	34x3-34x5.....	3,300	.....	94
95	W, Timken, 6453..	.....	.....	2, R	.....	E, E	R, Own.....	½, ½	Standard....	.....	.....	.....	Lavine....	.....	W, Standard	135	36x3½-36x4.....	.....	.....	95
95a	W, Wisc., 800G...	Y	B	2, R	.....	E, E	P, Detroit.....	½, ½	Mather....	8, 10	40x2½-54x3	L	.....	.....	W.....	135	36x3½-36x5.....	4,350	60, 85	95a
96	B, Columbia.....	.....	.....	2, R	.....	C, E	P, Smith.....	½, ½	Tuthill....	.....	.....	L	Gemmer..	.....	W, Mutual.	150	35x5p-35x5p.....	.....	.....	96
97	W, Timken, 6460..	Y	W	2, R	11 , 11	E, E	P, Savage.....	½, ½	Detroit....	8, 12	40x2½-50x2½...	L	Ross.....	.....	W, Bimel...	142	36x3½-36x6.....	3,800	—, 74	97
98	W, Timken, 6460..	Y	W	2, R	10 , 11	E, E	P, Parish & B..	½, ½	Mather....	9, 9	39½x2½-53½x3..	L	Ross.....	.....	W, Schwarz.	144	36x6p-38x7p.....	4,750	50, 80	98
99	W, Timken, 6460..	Y	B	2, R	9 , 9½	E, E	P.....	½, ½	Detroit....	8, 12	38x2½-52x2½...	L	Ross.....	54, 0	W, Bimel...	141	34x3½-34x5.....	3,700	50, 70	99
99a	W, Sheldon, W103	N	.....	2, R	.....	E, E	R.....	½, ½	Sheldon....	9, 13	38x2½-52x3....	L	Ross.....	.....	W.....	144	36x3½-36x5.....	.....	50, 70	99a
99b	I, Torbensen.....	.....	W, Powrlok	2, R	.....	E, E	P.....	½, ½	.....	10, 12	40x2½-54x2....	.....	.....	.....	W.....	144	34x4-34x5.....	.....	.....	99b
100	I, Torbensen.....	Y	B	2, R	10½, 11½	C, E	R.....	½, ½	Detroit....	8, 12	36x2-52½x2½...	L	Lavine....	.....	W, Bimel...	130	32x3½-32x4.....	3,070	—, 66	100
100a	W, Wisconsin.....	N	B	2, R	9½, 9½	E, E	R, Own.....	½, ½	Tuthill....	8, 10	40x2½-50x3....	L	Ross.....	42, 0	W,St.Mary's	152	36x3½-36x5.....	4,000	55, 75	100a
101	I, Clark, 1B.....	N	B	2, R	14 , 13	C, E	P, Parish & B..	½, ½	Higgins....	7, 12	40x2½-52x2½...	L	Lavine...	48, 0	W, Bimel...	132	35x5-35x5.....	2,800	30, 75	101
102	I, Russel	Y	B	2, R	12 , 13	C, E	R, Own.....	½, ½	Detroit....	7, 12	40x2-54x2½....	L	Gemmer..	52, 0	W, Bimel...	132	32x3½x32x4.....	3,500	50, 70	102
103	I, Torbensen, C...	N	B	2, R	11 , 12	C, E	P.....	½, ½	Perfection..	8, 11	39x2½-56x3....	L	Ross.....	54, 0	W, Schwarz.	144	36x3½-36x5.....	3,600	53, 65	103
104	I, Russel, PI300 ..	Y	B	2, R	10½, 11½	C, E	P, Detroit.....	½, ½	Mather....	9, 10	40x2½-52½x3....	L	Lavine...	48, 0	W, Wayne..	135	34x3½-34x5.....	3,520	—, 90	104
105	W,Sheldon, W1501	N	B	2, R	.....	E, E	P, Parish & B..	½, ½	Sheldon....	7, 10	39x2½-48x3....	L	Gemmer..	.....	W, Hoopes.	140	36x3½-36x5.....	3,550	52, 74	105
106	W, Timken, 6460..	Y	B	2, R	10½, 11	E, E	R.....	½, ½	Mather....	8, 11	40x2½-54x3....	L	Gemmer..	.....	W, Standard	144	36x3½-36x5.....	3,900	60, 75	106
107	W, Timken, 6460..	N	B	2, R	10½, 10	E, E	P, Parish & B..	½, ½	Perfection..	9, 9	36x2½-52x3....	L	Ross.....	.....	W, Bimel...	146	36x3½-36x6.....	3,750	51, 78	107
108	W.....	.....	.....	2, R	.....	E, E	P.....	½, ½	.....	.....	.....	.....	Ross.....	.....	.....	144	36x4-36x6.....	.....	.....	108
109	B, Standard, C....	Y	B	2, R	10 , 12	C, E	P.....	½, ½	Marathon..	7, 12	36½x2-50½x3...	L	Gemmer..	56, 0	W, Moline..	130	33x4p-33x4.....	3,240	60, 70	109
110	I, Torbensen, A...	Y	B	2, R	11, 12½	C, E	P, Detroit.....	½, ½	Detroit....	8, 11	36x2½-50x3....	L	Jacox.....	50, 0	W, Bimel...	134	36x6p-36x6p.....	3,200	.....	110
111	W, Timken.....	.....	.....	2, R	.....	E, E	P, Parish & B..	½, ½	Spring Perch	.....	.....	L	Ross.....	.....	W, Crane...	140	36x3½-36x5.....	.....	.....	111
112	W, Sheldon.....	Y	W	2, R	.....	E, E	R, Own.....	½, ½	Mather....	9, 11	38x2½-50x2½...	L	Ross.....	.....	W, Bimel...	136	36x3½-36x5.....	.....	.....	112
113	W, Own.....	Y	B	2, R	10½, 10½	F, F	P, Savage.....	½, ½	Perfection..	7, 11	37x2-54x2½....	L	Ross.....	44, 0	W, Prudden	140	34x3-34x5.....	3,300	50, 80	113
114	W, Sheldon, W1501	Y	B	2, R	10, 10	E, E	P, Savage.....	½, ½	Iron City..	9, 13	40x2½-54x2½...	L	Gemmer..	51, 9	W, Jones...	144	34x3½-34x5.....	3,500	50, 70	114
115	W, Chicago, C....	Y	B	2, R	10, 12	E, E	P, Own.....	½, ½	Maremont..	7, 9	35x2½-52x2½...	L	Lavine...	42, 0	W, Crane...	126	34x4-34x5.....	3,280	50, 75	115
116	I, Torbensen.....	.....	.....	2, R	.....	E, E	P, Detroit.....	½, ½	Detroit....	.....	.....	L	.....	.....	W, Crane...	140	35x5-36x6.....	.....	.....	116
117	W, Wisc., 800H...	Y	W	2, R	10, 10	E, E	P.....	½, ½	Perfection..	9, 11	40x2½-48x2½...	L	Ross.....	54, 0	W, Bimel...	128	34x5-34x5.....	4,120	40, 70	117
118	W.....	Y	W	2, R	.....	E, E	P.....	½, ½	Mather....	8, 10	40x2½-53x2½...	L	Gemmer..	.....	W, Prudden	144	36x3½-36x5.....	4,000	50, 90	118
118a	I, Torbensen.....	.....	.....	.....	.....	.....	.....	.....	Own.....	.....	.....	.....	Ross.....	.....	.....	127	34x3½-34x5.....	3,725	.....	118a
119	W, Sheldon.....	Y	B	2, R	11, 11½	E, E	P, Parish & B..	½, ½	Penn.....	9, 9	39x2½-50x2½...	L	Ross.....	.....	W, Prudden.	145	35x5p-38x7p.....	.....	.....	119
120	W, Timken.....	.....	.....	2, R	.....	.....	P.....	.....	.....	.....	.....	.....	Ross.....	.....	.....	144	34x3½-36x5.....	.....	.....	120
121	W, Standard, 603.	Y	B	2, R	10½, 10	E, E	R, Own.....	½, ½	Mather....	8, 11	41x2½-56x3....	L	Ross.....	.....	W, Prudden.	136	34x3½-34x6.....	3,500	50, 70	121
122	W, Timken, 6560..	N	B	2, R	12½, 9	E, E	P.....	½, ½	Mather....	9, 9	40x2½-54x3....	L	Gemmer..	46, 3	W, Auto....	144	36x3½-36x5.....	4,250	56, 69	122
123	W, Sheldon.....	.....	.....	2, R	.....	E, E	R, Own.....	½, ½	Own.....	.....	.....	.....	Ross.....	.....	I, Smith....	120	36x3½-36x5.....	.....	.....	123
124	W, Timken, 6460..	Y	W	2, R	12, 10½	E, E	P.....	½, ½	Tuthill....	9, 12	44x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	142	36x3½-36x5.....	3,800	50, 20	124
125	W,Sheldon,W-1500	Y	B	2, R	13, 9¾	E, E	P, Hydraulic...	½, ½	Mather....	6, 11	38x2-48x2½....	R	Jacox.....	.....	W, Wayne..	138	34x3½-34x5.....	3,600	55, 75	125
126	W, Timken, 6460..	N	B	2, R	10¾, 9½	E, E	P, Smith.....	½, ½	Detroit....	8, 10	36x2½-54x3....	L	Jacox.....	51, 0	W.....	130	36x3½-36x5.....	4,205	55, 74	126
127	I,Torbensen.....	Y	B	2, R	11, 12½	C, C	P, Detroit.....	½, ½	Detroit....	9, 12	42x2½-52x3....	L	Lavine...	48, 0	S, Disteel..	133	35x5p-36x6p.....	3,400	..,80	127
128	I, Clark.....	Y	B	2, R	11, 11	C, E	P, Own.....	½, ½	Perfection..	10, 11	40x2½-52x2½...	L	Ross.....	51, 0	W, Bimel...	138	36x3½-36x5.....	3,800	69, 90½	128
129	W, Standard.....	Y	B	2, R	11,	E, E	P.....	½, ½	Perfection..	10, 11	40x2½-52x2½...	L	Ross.....	51, 0	W, Bimel...	138	36x3½-36x5.....	4,200	69, 90½	129
131	I, Torbensen, A...	Y	B	2, R	10, 10½	C, E	P.....	½, ½	Perfection..	11, 12	42x2½-50x2½...	L	Jacox....	45, 0	W, Royer...	140	35x5p-38x7p.....	3,450	47½, 67	131
132	W, Sheldon.....	.....	.....	.....	.....	E, E	P, Own.....	.....	Sheldon....	.....	.....	L	Ross.....	.....	W, Schwarz.	128	34x3½-34x5.....	.....	.....	132
133	I, Clark.....	.....	.....	2, R	.....	C, E	R, Own.....	½, ½	Detroit....	.....	.....	L	Ross.....	.....	W, Bimel...	148½	34x3½-34x5.....	.....	.....	133
134	I, Torbensen.....	.....	.....	2, R	.....	C, E	P.....	½, ½	Perfection..	.....	.....	.....	Lavine....	.....	W.....	140	34x3½-34x5.....	.....	.....	134
135	W.....	.....	.....	2, R	.....	E, E	P.....	½, ½	Perfection..	.....	.....	.....	Lavine....	.....	W.....	140	34x3½-34x5.....	.....	.....	135
136	W, Hindley.....	.....	.....	2, R	.....	E, C	P, Savage.....	½, ½	Perfection..	.....	.....	.....	Ross.....	.....	W, Wayne..	148	34x4-34x5.....	.....	.....	136
137	I, Torbensen.....	.....	.....	2, R	.....	C, E	P.....	½, ½	.....	.....	.....	.....	Lavine....	.....	W.....	135	34x3½-34x5.....	.....	.....	137
139	I, Own.....	.....	B	2, R	10½, 11½	E, E	P.....	½, ½	.....	10, 14	41½x2½-56x3....	L	Own.....	.....	W.....	128	36x3½-36x5.....	3,400	50, 67	139
140	I, Clark, 1D.....	Y	B	2, R	11, 13½	C, E	P.....	½, ½	Perfection..	9, 11	40x2½-52x2½...	L	Jacox....	35, 0	W.....	144½	36x3½-36x5.....	3,600	50, 75	140
141	W, Wisc., 800F...	N	W	2, R	9, 9½	E, E	R.....	½, ½	Sheldon....	6, 11	40x2½-50x2½...	L	Ross.....	51, 8	W, Bimel...	144	36x4-36x5.....	5,080	—, 80	141
142	I, Torbensen, B...	Y	S	2, R	14, 11	E, E	P.....	½, ½	Mather....	6, 9	42x2½-52x3....	L	Lavine....	.....	W, F & O.	136	34x3½-34x6.....	3,620	68, 80	142

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3,000 (Kelly-Springfield)—4,000 (Collier) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	3,000 Pounds—Con.																			
143	Kelly-Sp'gf'd,K31.(ch'n)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Own	143
144	Kelly-Sp'gf'd,K32.(w'm)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Spicer	144
145	Kissel, General Utility	2,775	Own	4	3¾x5½-24.0	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	145
146	Kleiber, A	3,100	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	146
147	K-Z	2,450	Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Thermoid	147
148	Larrabee, N		Continental, N	4	3¾x5-22.5	S	Simplex	T	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Universal	148
149	Maccar, L	2,925	Continental, C4	4	4¼x5½-27.2	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	149
150	Mack, AB(chain)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	150
151	Mack, AB(worm)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	151
152	Mapleleaf, AA		Hinkley,HAA400	4	4x5½-25.6	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LTU5	N	Blood	152
154	Master, JW	2,490	Buda, OU	4	4¼x5½-27.2	S	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Spicer	154
155	Maxwell	1,322	Own	4	3¼x4½-21.0	S		T	T, Own	N	Johnson	G	B, Simms	Y	C, Own	S, 3	Own	N	Own	155
156	Menominee, H		Continental, C4	4	3¾x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU2	N	Spicer	156
157	Moreland, 19B	2,930	Continental	4	4¼x5½-27.2	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	157
158	Myers, 80	1,875	Lycoming	4	3¾x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees	N	Universal	158
159	Napoleon, 11		Victory	4	3¾x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	B	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	159
160	National, GA		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	160
161	Nelson & LeMoon, F1½		Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-L, 35		Thermoid	161
162	Noble, B30		Buda	4		FS	Pierce	P	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU			162
163	Norwalk	1,750	Lycoming, K	4	3¾x5-19.6	FS	N		T, Chicago		Carter		B		P, Borg & B	S, 3	Grant-Lees, 515			163
164	O. K., K	2,450	Buda, ITU	4	4¼x5-32.4	FS	Pierce	T	T, R'me-T'r'y		Zenith		M, Eisemann		M. Fuller	S, 3	Fuller, TU3		Hartford	164
165	Old Hickory, N	995	Lycoming, K	4	3¾x5-19.6			T	C, Standard		Carter		M, Connectic		C, Lycoming	S, 3	Grant-Lees			165
166	Old Reliable, A	2,350	Wisconsin, EU	4	4x5-25.6	F	N	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	166
166a	Orleans			4	4x5½-25.6	F		P	T	N	Master	G	M, Eisemann	N	M	I, 3	Cotta			166a
167	Packard, 1¾E	3,200	Own	4	4x5½-25.6	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Spicer-Th	167
168	Paige, 52-19		Hinkl'y,HAA400	4	4x5½-25.6	F	Hinkley	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	168
169	Patriot, Lincoln	2,450	Hinkley,HAA400	4	4x5½-25.6	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Fuller, G5	N	Thermoid	169
170	Rainier, R6	2,150	Continental, N	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	170
171	Reliance, A10	2,500	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU3	N	Peters	171
172	Republic, 11X		Continental, N	4	3¾x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 3	Fuller, TU¾	N	Hartford	172
173	Reynolds, 3A	3,250	Own	4	4x5½-26.5	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Own	N	Thermoid	173
173a	Rowe, CW	2,800	Wisconsin	4	3¾x5-22.5	F	Simplex	P	—, Fedders		Zenith		M, Bosch			S, 4	Brown-L		Spicer	173a
174	Royal	2,800	Wisconsin	4	3¾x5-22.5		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			174
175	Sandow, CG	2,190	Continental, N	4	3¾x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	175
176	Schwartz, B2	2,175	Continental, J4	4	3¾x5-22.5	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	176
177	Selden, 1½A		Continental, N	4	3¾x5-22.5	S	Pierce	T	T, Long	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	177
178	Service, 31 (solids)	2,985	Buda, IU	4	4x5½-25.6	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	178
179	Service, 36 (pneumatics)	3,415	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	179
180	Signal, H	2,925	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	180
181	Southern, 15		Continental, N	4	3¾x5-22.5	FS	Pierce	T	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	181
182	Sterling	2,850	Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	182
183	Stewart, 9	2,250	Continental, N	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	183
184	Stoughton, B		Waukesha	4	3¾x5-22.5	F	Waukesha	P	T, Chicago		Stromberg		M, Eisemann		M, Brown-L	S, 3	Brown-Lipe		Thermoid	184
185	Sullivan, F	2,975	Buda, M	4	3¾x4½-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Bosch	N	C, Hartford	S, 3	Covert, GI	N	Hartford	185
186	Texan, TK	1,525	Lycoming	4	3¾x5-19.6	S	N	T	C, Own		Carter		B		P, Borg & B	S, 3	Muncie			186
187	Tiffin, GW	2,415	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 3	Fuller, GU3	Y	Peters	187
188	Tower, J	2,820	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Own	N		G	M	N	M, Fuller	S, 3	Fuller, LTU	N		188
189	Transport, 30	2,250	Continental, N	4	3¾x5-22.5	FS	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Hartford	189
190	Traylor, C	2,875	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N		190
191	Triangle, A	2,185	Waukesha, BU4	4	3¾x5½-22.5	S	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	191
192	Ultimate, A		Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	192
193	United		Buda	4	3¾x5½-22.5						Stromberg		M		M	S, 3	Brown-Lipe			193
194	Universal, G		Buda	4	3¾x5-22.5		Monarch	P	T, Bremer		Zenith		M, Eisemann		P, Own	S, 3	Own			194
195	U. S., N	2,150	Continental	4	3¾x5-22.5		Monarch	P	T, Long		Stromberg		M, Eisemann		M, Brown-L	S, 3	Brown-L		Blood	195
196	Velie, 46	1,925	Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Stromberg	G	M, Berling	N	P, Borg & B	S, 3	Durston 034000	N	Arvac	196
197	Victor (Mich.), A		Continental, N	4	3¾x5-22.5	F	N	T	Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	197
198	Watson, 20		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	T, R'me-T'r'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	198
199	White Hickory, H	2,650	Continental, N	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	199
200	Wichita, L	2,600	Waukesha, BX	4	3¾x5-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 3	Cotta	N	Thermoid	200
201	Wilcox, B		Own	4	4¼x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		201
202	Wilson	2,450	Continental, N	4	3¾x5-22.5	FS	Pierce	T	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35		Thermoid	202
203	Winther, 39 (rear drive)	2,450	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	203
204	Winther, 430 (4-wh'l-dr)	2,850	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Peters	204
205	Wisconsin, B	1,750	Waukesha	4	3¾x5½-19.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			205
206	Witt-Will, N Special	2,150	Continental	4	3¾x5-22.5		Pierce	P	C, Bremer		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	206
207	Wolverine, C		Continental	4	3¾x5-22.5		Monarch	T	T, Long		Stromberg		M, Eisemann	Y	M, Fuller	S, 3	Fuller		Universal	207
	3,500 Pounds:																			
208	Air-O-Flex, C		Buda, CTU	4	3¾x5½-22.5	P	Duplex	F	T, Spirex	N	Stromberg	G	M, Splitdorf	Y	P, Borg & B	S, 4	Brown-L, 35	N	Thermoid	208
209	Oneida, B9	2,915	Hink'y, HAA400	4	4x5-25.6	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LT5	N	Spicer	209
	4,000 Pounds:																			
210	Acme, A	3,050	Continental, C4	4	4¼x5½-27.2	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, RU	N	Blood	210
211	Atco, W20	2,875	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Hartford	211
212	Autocar, 21UF	2,300	Own	2	4¼x4½-18.0	S	N	P	T, Own	N	Stromberg	G	M, Bosch	N	P, Own	S, 3	Own	N	Spicer	212
214	Beck, C	2,350	Continental	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU3	Y	Blood	214
215	Belmont, C	2,550	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Sterling	215
216	Brinton, F	3,000	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Mayo	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50		Spicer	216
217	Collier, 20		Continental	4	4¼x5½-27.2		Monarch	P			Zenith		M, Eisemann		M, Fuller	S, 4	Fuller			217

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TRUCK SPECIFICATIONS

3,000 (Kelly-Springfield)—4,000 (Collier)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
143	C, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10,11	40½x2½-43½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,590	50, 90	143
144	W, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10 12	40½x2½-47½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,685	50, 90	144
145	W,Sheldon,W-1500	Y	W	2, R	12⅝, 11	E, E	P, Smith	½, ½	Mather	10,11	38x2½-50x2½	L	Jacox	50, 0	W, Prudden	152	36x3½-36x5	4,000	51½, 69	145
146	W, Sheldon, W-103	Y	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W,Waterh'se	143	36x3½-36x6	4,900	50, 75	146
147	W, Timken, 6460	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	7, 9	40x2½-50x3	L	Lavine	30, 2	W, St. M'ry	134	36x3½-36x5	4,000		147
148	W,Sheldon,W-1500	Y	B	2, R	10½, 9½	E, E	P, Savage	½, ½	Merrill	7, 9	38x2½-53x2½	L	Ross		W, Hoopes	130	34x3½-34x5	3,600	36, 88	148
149	W, Timken, 6460	N	B	2, R	10½, 10½	E, E	P, Parish	½, ½	Merrill	7, 12	42x2½-54x2½	L	Ross		S, Dayton	150	36x4-36x5	4,300	—, 70	149
150	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars.	Opt.	36x4-36x3½d	4,800	46, 67	150
151	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars.	Opt.	36x4-36x3½d	4,900	47, 69	151
152	W,Sheldon,W-103	Y	B	2, R	9, 9½	E, E	R	½, ½	Sheldon		42x2½-50x3	L	Ross		W, Hayes	144	34x4-36x6	4,600	50, 70	152
154	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Detroit	8, 10	44x2-52x2½	L	Ross	42, 0	W, Prudden	142	34x3½-34x5	3,800	55, 78	154
155	W, Own	Y	B	2, R	13, 11	E, E	P	½, ½	Detroit	7, 11	38x2½-52x2½	L	Own	52, 2	W, Kelsey	124	32x3-32x4	2,350	20, 66	155
156	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	144	36x3½-36x5	4,000		156
157	W, Timken, 6456	N	W	2, R	10½, 8½	E, E	P	½, ½	U. S	6, 10	38x2½-48x3	L	Ross	50, 0	I, Smith	126	36x3½-36x5	4,150	50, 65	157
158	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	8, 9	36x2-50x3	L	C.A.S		W, E & O	144	34x3½-34x5	3,200	50, 75	158
159	I, Clark, 1D	N	B	2, R	14, 13	C, C	R, Own	½, ½	Mather	9, 12	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-36x5p	3,400	50, 65	159
160	W, Timken, 6460	Y	W	2, R	10½, 9½	E, E	P	½, ½	Coghlin	7, 10	40x2½-52x3	L	Ross	48, 0	W, Hayes	140	34x4-34x5			160
161	W, Timken, 6552	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x3½-36x6			161
162	W,Sheldon,W-103			2, R		E, E	P, Parish & B	½, ½	Tuthill				Lavine		W, Bimel	144	36x3½-36x5			162
163	W, Chicago, C			2, R		E, E	P, Own	½, ½	Standard				Lavine		W, E & O	130	34x3½-34x5			163
164	W, Wisconsin			2, R		E, E	P, Savage	½, ½	Tuthill				Ross		W, Bimel	146	36x3½-36x5			164
165	B, Salisbury			2, R		C, E	R, Detroit		Tuthill				Lavine		W, Bimel	112	33x4-33x4			165
166	W, Sheldon, W21	Y	W	2, R	11, 9½	E, E	P	½, ½	Sheldon	9, 13	39x2½-54x3	R	Ross		W, Prudden	138	34x4-36x6	4,150	—, 90	166
166a	W	N		2, R		E, E	R	½, ½			40x2½-52x3		Ross		I, Smith	142	36x3½-36x5			166a
167	W, Own	N	S	2, R	9⅝, 9½	C, E	R, Own	½, ½		10, 11	41x2½-46x2½	L	Own	50, 0	W	144	34x3½-34x3½d	4,670	46, 67	167
168	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	9, 10	42x2½-52x3	L	Ross		I	140	34x3½-34x5	4,000	60, 75	168
169	W, Empire, N	Y	B	2, R	11, 11½	E, E	P, Detroit	½, ½	Cooper	8, 13	40x2½-52x2½	L	Ross	46, 6	W, Bimel	140	34x3½-34x5	3,900	45, 75	169
170	W,Sheldon,W-1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 14	38x2-50x2½	L	Lavine		W, Schwars.	133	34x3-34x4	3,000	75, 75	170
171	E, Own	Y	B	2, R	10, 11½	E, E	P, Savage	½, ½	Sheldon	8, 11	36x2½-56x2½	L	Ross		W, Bimel	150	36x3½-36x5	4,500	35, 85	171
172	I, Torbensen, C2	Y	W, Powrlok	2, R		E, E	P, Detroit	½, ½	Mather	8, 15	39x2½-52½x2½	L	Jacox		W	144	34x4-34x6	3,300		172
173	W, Own	Y	B	2, R	13½, 10½	E, E	R, Standard	½, ½	Own		40x2½-54x2½	L	Own		I, Smith	140	36x3½-36x6			173
173a	W, Sheldon			2, R		E, E		½, ½	Sheldon				Ross		W, Hoopes	133	36x6p-36x6p	3,800	—, 62	173a
174	W, Timken			2, R		E, E	R, Own		Merrill				Ross		W	128½	34x4-34x5			174
175	W,Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage	½, ½	Garden City	7, 12	36x2½-52x2½	L	Ross	54, 0	W, Standard	135	34x3½-34x5	3,900	20, 70	175
176	I, Torbensen, B	Y	B	2, R	10, 11½	C, E	P, Parish	½, ½	Rowland	7, 13	38½x2½-54x3	L	Ross		W, Schwars.	140	34x3½-34x5	3,600		176
177	W, Timken, 6460	Y½	B	2, R	—, 9½	E, E	P, Parish & B	½, ½	Perfection	10, 10	40x2½-50x2½	R	Lavine	48, 0	W	137½	34x3½-34x5	3,560	56, 75	177
178	W, Timken, 6460	Y	B	2, R	11½, 9½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	36x3½-36x6	4,850	—, 65	178
179	W, Timken, 6460	Y	B	2, R	11½, 10½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	35x5p-38x7p	4,900	—, 65	179
180	W, Timken, 6460	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	10, 11	44x2½-56x3	L	Ross	53, 0	W, Hayes	144	34x4-36x6	4,760	—, 73	180
181	W, Sheldon	Y	W	2, R			P, Parish & B		Mather		38x2½-54x2½	L	Ross		W, Royer	143	34x3½-34x5d			181
182	W, Timken, 6460	N	W	2, R	10½, 10½	E, E	P	½, ½	Mather	8, 10	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x3½-36x5	4,720	47, 91	182
183	I, Clark, 1D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	8, 11	41x2½-54x3	L	Gemmer	49, 0	W, Wayne	140	34x3½-34x5	3.440	56, 70	183
184	W, Sheldon			2, R		E, E	P, Smith	½, ½	Sheldon						W, Bimel	140½	36x3½-36x5	3,800		184
185	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	R, Own	½, ½	Merrill	9, 9	38x2-52x3	L	Ross	45, 0	W, Wayne	129	36x3-36x5	3,500	54, 68	185
186	W, Chicago			2, R		E, E	P, Parish & B	½, ½	Maremont				C.A.S		W	144	34x4p-34x5			186
187	W, Sheldon, W102	N	R	2, R	10, 12	E, E	P	½, ½	Kalamazoo	9, 11	40x2-48x2½	L	Ross	47,0	I, Smith	135	36x3½-36x5	3,650	40, 60	187
188	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		42x2½-52x2½	L	Ross		W	142	35x5p-38x7p	3,800	—, 75	188
189	I, Clark, 1D	Y	B	2, R	11½, 12½	C, E	P, Detroit	½, ½	Detroit	7, 10	40x2½-54x3	L	Jacox		W	140	35x5p-38x7p	3,450	50, 70	189
190	W, Sheldon, W103	Y	W	2, R		E, E	P, Savage	½, ½			38x2½-50x2½	L	Ross		W, Schwars.	138	36x4-36x6	4,700		190
191	I, Clark, 1D	Y	W, Powrlok	2, R	9½, 10	C, C	R, Mason	½, ½	Detroit	9, 11	42½x2½-54x2½	L	Gemmer	47, 6	W, Royer	144	34x3½-34x6	3,750	60, 80	191
192	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P	½, ½	Sheldon	9, 13	39x2½-52x2½	L	Ross	47, 0	W	140	36x3-36x5	4,500	50, 70	192
193	I, Clark			2, R			P	½, ½				L			W	145	34x3½-34x5			193
194	W, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	133	34x3½-34x5			194
195	I, Clark			2, R		C, E	P		Sheldon			L	Lavine		W, Schwars.	144	36x3½-36x5			195
196	I, Torbensen, C	Y	W	2, R	10½, 12	C, E	P, Dunbar	½, ½	Mather	8, 11	40x2½-54x3	L	Ross	46, 0	W, Bimel	133	36x3½-36x5	3,650	52½, 85	196
197	I, Clark	Y	B, W	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L			W, Prudden	140	-x4—x5	3,250	80, 80	197
198	W, Empire, N	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Sheldon		40x2½-52x3	L	Lavine		W,Crane	144	36x3½-36x5			198
199	W, Timken, 6460	Y	W	2, R	10, 10	E, E	P, Parish & B	½, ½	Sheldon	8, 10	41½x2½-50x3	L	Ross	51, 0	W, Bimel	144	36x3½-36x5	3.750	54, 76	199
200	W, Sheldon	Y	W	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit			R	Ross		W	144	36x3½-36x5	4,100		200
201	W, Wisc., 800E	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 10	40x2½-52x3	L	Own		I, Smith	144	36x4-36x5	4,600	25, 75	201
202	W, Timken, 6460	Y	B	2, R	10½, 10½	E, E	R	½, ½	Perfection	8, 12	38x2½-52x2½	L	Ross		W	140	36x3½-36x5	3,800		202
203	I, Clark, 1D	Y	B	2, R	10, 11½	C, C	R, Own	½, ½	Harvey	9, 12	40x2½-48x2½	R	Lavine	56, 0	I, Own	140	34x3½-34x5	3.600	40, 75	203
204	I, Clark, 1D	Y	B	4, FR	11½, 10½	C, C	R	½, ½	Harvey	9, 12	40x2½-48x2½	L	Lavine	58, 0	I, Own	132	32x4-32x4	4,100	30, 60	204
205	W, Sheldon			2, R		E, E	P, Smith						Lavine		W	136	34x3½-34x4			205
206	W, Timken			2, R		E, E	P, Parish		Delaney			L	Ross		W, Arch'ld	120	36x3½-36x5			206
207	I, Russel			2, R		C, E	P, Parish & B	½, ½	Tuthill			L	Gemmer		W	140	34x3½-34x5			207
208	I, Russel, P1-200	N	B	2, R	15, 14	E, C	P					L	Ross		W	150	36x3½-36x5	4.000	40, 70	208
209	W, Wisc., 800H	Y	B	2, R	10½, 10	E, E	P, Detroit	½, ½	Mather	9, 12	40x2½-56x3	L	Ross		W	144	36x3½-36x6	4,900	60, 85	209
210	W, Timken, 6566	Y	B	2, R	11½, 9½	E, E	P	½, ½	Detroit	8, 12	40x2½-52x3	L	Ross	54, 0	W, Bimel	148	36x4-36x7	4,450	50, 70	210
211	W, Wisc., 800J	Y	B	2, R	12½, 10½	E, E	P, Parish & B	½, ½	Sheldon	9, 11	41x2½-52x3	L	Ross	61, 2	I, Smith	150	36x4-36x7	4,800	53, —	211
212	S, Own	Y	B	2, R		C, E	P	½, ½	T			R	Own		W	97		3.600		212
214	I, Clark, 2	N	S	2, R	14, 13	C, E	P, Parish & B	½, ½	Higgins	8,13	40x2½-52x3	L	Lavine	48, 0	W, Bimel	144	36x7-40x8	3,800	30, 75	214
215	I, Clark, 2	N	B	2, R	11, 11	C, E	R, Savage	½, ½	Mather	9, 12	40x2½-52½x3	L	Lavine	52, 0	S, Clark	154	36x4-36x7	4,000	50, 80	215
216	W, Timken, 6560	N	W	2, R	11½, 9½	E, E	R, Own	½, ½	Philadelphia	12, 14	44x2½-50x3	L	Ross	40, 0	W, Schwars	150	36x4-36x6	4,500	45, 70	216
217	W			2, R		E, E	R						Ross			152	36x4-36x7			217

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4,000 (Conestoga—Wolverine) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	4,000 Pounds—Con.																			
218	Conestoga, 30	2,700	Continental, N.	4	3½x5-22.5	FS	Duplex	T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU3	N	Sterling	218
219	Day-Elder, D	2,750	Continental, C2.	4	4¼x5½-27.2	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, RUN3C.	N	Hartford	219
220	Dearborn, 48	2,590	Buda	4	3½x5½-22.5	F	Simplex	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller	N	Hartford	220
221	Defiance, E		Continental	4	3½x5-22.5		N	P	C, Perfex		Stromberg			Y	P, Borg & B	S, 3	Grant-Lees			221
222	DeKalb, E2	2,250	Continental	4	4¼x5½-27.2		N	P	T, Jackson		Master		M, Eisemann		M, Fuller	S, 3	Fuller		Hartford	222
223	Denby, 134	2,450	Continental, N.	4	3½x5-22.5	F	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	223
224	Diamond T, U	3,485		4	4x5½-25.6	F		P	T, G & O	N	Stromberg	G	M, Bosch	N	M			N	Spicer	224
225	Dorris, K4	3,400	Own	4	4¼x5½-28.9	F	Own	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Warner	S, 4	Warner, T53	N	Spicer	225
225a	Douglas, H (int.)	2,650	Buda	4	4¼x5½-27.2	F	Pierce	P	Own		Schebler		M, Eisemann		M, Fuller	S, 3	Fuller		Arvac	225a
225b	Douglas, H (worm)	2,850	Buda	4	4¼x5½-27.2	F	Pierce	P	Own		Schebler		M, Eisemann		M, Fuller	S, 3	Fuller		Arvac	225b
225c	Eagle		Buda, CTU	4	3½x5½-22.5	F		P	C	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert		M & E	225c
226	Erie			4	4¼x5½-27.2		Pierce		T		Stromberg		M, Bosch		M	S, 4				226
227	Fargo, P	2,250	Continental, N.	4	3½x5-22.5	FS	Monarch	T	T, Own	N	Rayfield	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	227
228	Federal, UE	2,900	Continental, C4.	4	4¼x5½-27.2	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit, TUE	N	Spicer	228
229	Forschler, B	2,750	Continental	4	4¼x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 3	Fuller		Own	229
230	Fulton, C	2,350	Herschell-Spill.	4	3½x5-16.9		Pierce	P	T, G & O		Carter		M, Simms	N	P, Borg & B	S, 3	Durston		Universal	230
231	Gabriel, E	3,250	Buda	4	4¼x5½-28.9		Duplex	P	C, G & O		Rayfield		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Spicer	231
232	Garford, 70H	3,190		4	4¼x5½-28.9	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		232
233	Giant, 16	3,050	Continental, C4.	4	4¼x5½-27.2	FS	Pierce	P	C, Own	Y	Schebler	G,K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	233
234	GMC, 41A	3,100	Continental, C2.	4	4¼x5½-27.2	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	234
235	Gramm-Bernstein, 20	3,275	Continental, C2.	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Stromberg	G	B, North East	N	M, Fuller	I, 4	Own	N	Own	235
237	Hall	2,875	Continental, C4.	4	4¼x5½-27.2	FS	Simplex	P	T, Long	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	237
238	Hendrickson	3,000	Buda, BU4R	4	4¼x5½-28.9	S		P	T, Chicago		Stromberg		M, Dixie		M, Fuller	S, 4	Fuller			238
239	Independent (Iowa), F.	2,290	Continental	4	4¼x5½-27.2		N	P	C, Chicago				M, Bosch	N	M, Fuller	S, 3	Fuller		Blood	239
240	Independent (Ohio), G.	2,300	Continental	4	4¼x5½-27.2		Monarch	P	T, Long		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	240
240a	Indiana, 20	3,140	Own	4	4¼x5½-27.2	F	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35	N	Acme	240a
241	International, G	2,700	Own	4	4x5-25.6	FS	Own	T	T, Long, McC	Y	Ensign	G	M, Dixie	N	M, Own	S, 3	Own	Y	Own	241
242	Jumbo, 20		Buda, CTU	4	3½x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast	Y	M, Fuller	S, 3	Fuller, LTUS	Y	Arvac	242
243	Keldon, 19	2,885	Buda	4	4¼x5½-28.9		Waukesha	P	C, Eureka		Stromberg		M, Eisemann		P, Borg & B	S, 3	Covert		Acme	243
243a	Keystone, 40	1,795	Own	4	4x4½-25.6		Pierce	T	T, McCord		Zenith		M, Berling	N	M, Fuller	S, 3			Spicer	243a
244	Kimball, B	3,675	Wisconsin, TU.	4	4x6-25.6	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	244
246	Kleiber, BB	3,600	Continental, C4.	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	246
247	Lange, B	2,950	Continental	4	4¼x5½-27.2		Pierce	T	T, Own		Stromberg		M, Bosch	N	M, Hele-Shaw	I, 3	Own		M & E	247
247a	Luedinghaus, K	2,790	Waukesha, RU4R	4	4¼x5½-28.9	F	Waukesha	P	T, Own	N	Schebler	G	M, Splitdorf	N	P, Borg & B	S, 3	Detroit		Spicer	247a
248	Mack, AB (chain)	3,300	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	248
249	Mack, AB (worm)	3,300	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	249
250	Menominee, D		Continental, C4.	4	4¼x5½-27.2	S	Monarch	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	250
251	Midland, MT	3,000	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S,	Fuller, JU2			251
252	Muskegon, 20	2,325	Continental	4	4¼x5½-27.2		Pierce	P	C, Mayo		Detroit		M, Eisemann	N	M, Fuller	S, 3	Fuller		Arvac	252
253	Mutual, 2A	3,375	Wisconsin, TAU.	4	4x6-25.6	F	Duplex	P	C, Perfex	N	Stromberg	G	M, Bosch	Y	M, Hele-Shaw	S, 4	Fuller, G5	N	Spicer	253
254	Nash, 3018	2,550	Own	4	3½x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 4	Detroit, H36	N	Own	254
255	Nash, 4017 Quad	3,250	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Own	N	Own	256
256	National, HA		Waukesha RU4K	4	4¼x5½-28.9	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 35	N	Spicer	256
257	Netco, D	3,100	Continental, C4.	4	4¼x5½-27.2	S	N	P	T, R'me-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Hartford	257
258	Niles, (Pa.), E	2,800	Continental, C4.	4	4¼x5½-27.2	FS	Pierce	P	C, Modine	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, O		Blood	258
259	Noble, C40		Buda	4	4x5½-25.6		Pierce	P	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		M & E	259
260	Northway, B2	3,250	Own	4	4x6-25.6	FS	Pierce	P	C, G & O	Y	Schebler	G	B	Y	M, Fuller	S, 4	Fuller, GU5	N	Spicer	260
262	Olympic, A	3,300	Continental, C4.	4	4¼x5½-27.2	FS	Monarch	P	T, Long		Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	262
263	Oshkosh, A	3,750	Hers'l-Spill. 7000	4	3½x5-19.6	FS	Duplex	T	C, Own	N	Zenith	G	B	Y	M, Brown-L	S, 4	Brown-L, 35	Y	Peters	263
264	Packard, 2E	3,600	Own	4	4x5½-25.6	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	264
265	Palmer	2,277	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	C, Fedders		Stromberg		M, Bosch		M, Fuller	S, 3	Fuller			265
267	Parker, F20	3,500	Wisconsin, TAU.	4	4x6-25.6	F	Monarch	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Fuller, G	N	Blood	267
268	Pierce-Arrow, X4	4,300	Own	4	4x5½-25.6	F	Own	P	T, Own	N	Own	G	B M, Berling	N	C, Own	S, 4	Own	N	Own	268
269	Pioneer, F	2,790	Continental	4	4¼x5½-27.2		Pierce	P	T, McCord		Stromberg		M, Eisemann	N	M, Brown-L	S, 4	Brown-L		Spicer	269
270	Power, B	2,950	Continental, C2.	4	4¼x5½-27.2	FS	Pierce	P	C, Candler	N	Stromberg	G	M, Simms	N	M, Fuller	S, 4	Fuller		Universal	270
271	Rainier, R8	2,650	Continental, N.	4	3½x5-22.5	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 30	Y	Hartford	271
272	Rowe, CDW	3,300	Wisconsin	4	4x5-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	272
273	Royal	3,200	Wisconsin	4	4x6-25.6		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own	N		273
274	Sandow, I	2,375	Continental, N.	4	3½x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Fuller, TU½		Spicer	274
275	Schacht		Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 4	Own	N	M & E	275
276	Shaw, M3	2,700	Continental, C4.	4	4¼x5½-27.2	FS	Pierce	P	T, Long		Zenith		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			276
277	Southern, 20		Buda, ITU	4	4x5½-25.6	FS	Pierce	T	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	277
279	Sterling	3,100	Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L 35	N	Spicer	279
280	Stewart, 7	2,875	Continental, C4.	4	4¼x5½-27.2	FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Hartford	280
281	Stoughton, D			4	4x5½-25.6	F		P	T, Chicago	Y	Stromberg	G	M, Eisemann		M, Brown-L	S, 3	Brown-Lipe		Thermoid	281
282	Sullivan, E	3,350	Buda, HTU	4	4¼x5½-28.9	S	N	P	T, Bush	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	282
283	Superior, E	2,450	Continental, C2.	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Arvac	283
284	Traffic, 746	1,495	Continental, N.	4	3½x5-22.5	FS	N	T	C, Own	N	Carter	G	M, Bosch	N	M, Covert	S, 3	Covert, MU-T	N	Universal	284
285	Transport, 50	2,785	Continental, C2.	4	4¼x5½-27.2	FS	Duplex	P	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Hartford	285
286	Triangle, C	2,585	Waukesha, BU4	4	3½x5½-22.5	S	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	286
287	Triumph, H	2,350	Buda, CTU	4	3½x5½-22.5	F	Pierce	P	C, Modine	Y	Bennett	G	M, Dixie	N	P, Borg & B	I, 3	Cotta, AAU	N	Hartford	287
288	Universal, D		Own	4	4½x5½-28.9		Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			288
289	Victor (Mich.), B		Continental, N.	4	3½x5-22.5	F	N	T	C, Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	289
290	Vim, 22	3,150	Hercules	4	3½x5½-22.5	F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	290
291	White, 20	3,300	Own	4	3½x5½-22.5	FS	N	P	C	N	Own	G	M		P, Own	S, 4	Own	N	Own	291
292	Wichita, M	2,800	Waukesha, BX	4	3½x5½-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 3	Cotta	N	Thermoid	292
293	Winther, 49	3,250	Wisconsin, EAU.	4	4x5-25.6	F	N	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	293
293a	Wolverine, D		Continental	4	3½x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller			293a

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TRUCK SPECIFICATIONS

4,000 (Conestoga—Wolverine)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
218	W, Wisc., 800C	Y	W	2, R	11, 10	E, E	R, Own	½, ½	Iron City	9, 12	40x2½-52x3	L	Ross	50, 0	W, E & O	138	36x4-36x4d	4,200	50, 70	218
219	W, Sheldon, W103	Y	B	2, R	11, 10½	E, E	P, Savage	½, ½	Iron City	10, 15	40x2½-54x2½	L	Gemmer	51, 9	W, Jones	144	36x4-36x7	4,250	50, 70	219
220	W, Chicago, C4	Y	B	2, R	10½, 12	E, E	R, Own	½, ½	Maremont	7, 11	41½x2½-48x3	L	Ditweiler	49, 4	W, Crane	148	34x4½p-34x7	3,500	50, 80	220
221	I, Torbensen			2, R		E, E	P, Detroit		Detroit			L	Own		W, Crane	140	35x5p-38x7			221
222	W, Timken			2, R		E, E	P, Parish					L	Ross		W, Schwarz	134	34x3½-36x5			222
223	J, Russel, 3-201	Y	B	2, R	10, 13	C, E	P	½, ½	Detroit	8, 13	44x2½-52x3	L	Gemmer	57, 1	W, Hayes	144	36x3½-36x6	3,800	50, 75½	223
224	W, Timken	Y	W	2, R		E, E	P	½, ½	Mather	9, 12	40x2½-53x2½	L	Gemmer		W, Prudden	160	36x4-36x7	4,800	50, 90	224
225	W, Timken, 6552	Y	W	2, R	11½, 9½	E, E	P, Smith	½, ½	Rowland	9, 15	42x2½-56x3	L	Ross	60, 0	I, Smith	144	36x4-36x7	5,050	86, 70	225
225a	I, Torbensen			2, R					Own				Ross			128	36x4-36x7	3,900		225a
225b	W, Wisconsin			2, R					Own				Ross			128	36x4-36x7	3,900		225b
225c	I, Russel	Y		2, R				½, ½		8, 16		L	Lavine		W	130	34x3½-34x6	4,100		225c
226	W, Timken			2, R			P				40x2½-54x3		Ross	50, 9		144	34x3½-36x5			226
227	I, Russel, U	Y	B	2, R	10, 12	E, C	R, Own	½, ½	Sheldon			L	Jacox		W	140	36x4-36x6	4,200	85, 80	227
228	W, Timken, 6560	N	B	2, R	12½, 9	E, E	P	½, ½	Mather	9, 13		L	Gemmer		W, Auto	156	36x4-36x7	4,800	60, 71	228
229	W, Sheldon			2, R		E, E	R, Own					L	Ross		I, Smith	144	36x4-36x7			229
230	I, Russel			2, R		C, C	P, Parish & B	½, ½	Rowland			L	Lavine	48, 0	W, E & O	137	34x4-34x6			230
231	W, Timken			2, R		E, E	P, Parish		Merrill			L	Gemmer		W, Standard	156	36x4-36x7			231
232	W	Y	B	2, R		E, E	P	½, ½		9, 11	42x2½-50x2½	L	Ross	57, 0	W	144	36x4-36x7	4,590		232
233	W, Sheldon, W103	Y	B	2, R	12½, 10½	E, E	P, Hydraulic	½, ½	Mather	8, 10	40x2½-56x3	R	Ross		W, Wayne	168	36x4-36x7	4,500	55, 75	233
234	W, Timken, 6560	N	B	2, R	12½, 9½	E, E	P Smith	½, ½	Detroit	8, 10	40x2½-54x3	L	Jacox		Own	144	36x4-36x7	4,855	53, 74	234
235	W, Standard	Y	B	2, R	11, 10½	E, E	P, Own	½, ½	Perfection	11, 1 2	40½x2½-52x2½	L	Ross	51, 0	W, Bimel	144	36x4-36x7	4,700	72, 91	235
237	W, Timken, 6552	Y	W	2, R	12, 9	E, E	R	½, ½	Perfection	9, 12	40x2½-54x3	L	Gemmer		I, Smith	156	36x4-36x4	4,825	25, 80	237
238	W, Timken			2, R					Tuthill				Ross		W	140	36x4-37x7			238
239	I, Russel			2, R		C, E	R, Own		Garden City			L	Lavine		W, Prudden	146	34x4-34x6			239
240	W, Wisconsin			2, R		E, E	P, Parish & B		Iron City			L	Wohlrab		S.Indestruct	144	34x4-34x6			240
240a	W, Sheldon, W-103	N	B	2, R	12½, 10½	E, E	R	F, ½	Sheldon	9, 11	40x2½-50x3	L	Wohlrab	48, 0	W, Bimel	150	36x4-36x7	5,360	58, 68½	240a
241	I, Own		B	2, R	10½, 12	E, E	P	½, ½		10, 14	39½x2½-55½x3	L	Own		W	138	36x4-36x6	4,060	50, 68	241
242	I, Clark, 1D	Y	B	2, R	11, 15½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	35x5p-38x7p	3,750	50, 75	242
243	I, Russel			2, R		C, E	R, Own	½, ½	Champion			L	Ross		I, Smith	144	36x4-36x7			243
243a	I, Russel			2, R		E, E	R, Own		Rowland			L	Ross		W, Wayne	144	34x4½p-36x5			243a
244	W, Sheldon, W102	Y	B	2, R		E, C	P, Parish	½, ½	U. S	10, 11	40½x2½-47x2½	L	Ross	39, 6	W, Weston		36x6p-36x7		50, 80	244
246	W, Timken, 6560	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W, Waterb'se	153	36x4-36x7	5,300	50, 75	246
247	C, Own			2, R		C, E	R, Own		Standard			L	Gemmer		W, Hoopes	136	36x4-36x6			247
247a	W, Wisconsin, J	N	B	2, R	10½, 10½	E, E	P	½, ½	Tuthill		42x2½-54x3	L	Lavine		W, Bimel	145	36x4-36x7	4,400	—, 80	247a
248	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W, Schwarz	Opt.	36x4-36x4d	4,900	47, 70	248
249	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W, Schwarz	Opt.	36x4-36x4d	5,000	48, 70	249
250	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	160	36x4-36x4d	4,700		250
251	W, Timken, 6552			2, R		E, E	R, Own	½, ½					Ross		I, Smith	144	36x4-36x4d			251
252	I, Torbensen			2, R		C, E	P, Parish & B	½, ½	Sheldon			L	Lavine		W, Prudden	144	36x4-36x6			252
253	W, Sheldon, W21	N	B	2, R	11, 9½	E, E	P, Parish & B	½, ½	Mather	8, 10	41x2½-56x3	L	Ross	52, 0	I, Smith	152	36x4-36x8	5,800	40, 71	253
254	I, Clark, 2D	Y	W	2, R	9½, 9½	C, C	P, Own	½, ½	Alloy	10, 12	37½x2½-52x2½	L	Jacox	50, 0	W, Auto	144	34x4-34x6	3,850	51, 73½	254
255	I, Own	Y	W	4, FR	14½, 14½	E, C	P, Own	½, ½	Mather	9, 8	48x2½-48x2½	L	Lavine	50, 0	S	124	36x5-36x5	6,250	33½, 55	255
256	W, Timken, 6560	N	W	2, R	10½, 9	E, E	R	½, ½	Mather	9, 11	40x2½-54x3	L	Ross	26, 0	W, Hayes	141	34x4-34x4d	5,000		256
257	W, Timken, 6560	Y	B	2, R	12, 11	E, E	P	½, ½	Perfection	8, 12	39x2½-49x3	L	Ross		W, Arch'ld	168	36x4-36x6	4,940	57, 65	257
258	W, Timken, 6550	N	W	2, R	11, 9	E, E	P, Savage	½, ½	Iron City	9, 14	45x2½-53x3	L	Gemmer		W, Hoopes	140	36x4-36x7	4,600		258
259	W, Sheldon			2, R		E, E	P, Parish & B	½, ½	Tuthill			L	Lavine		W, Bimel	148	36x4-36x7			259
260	W, Sheldon, W21	Y	B	2, R	14, 9	E, E	P	½, ½	Perfection	9, 10	42x2½-54x3	L	Ross	50, 0	S, Clark	146	36x4-36x4	5,300	58½, 77½	260
262	W, Timken, 6560	N	B	2, R	10, 10	E, E	P, Savage	½, ½	Mather	7, 12	39x2½-50x3	L	Ross		W, St. M'r'y	158	36x4-36x7	4,850		262
263	B, Own	Y	B	4, FR	10½, 10½	C, C	P, Smith	½, ½	Tuthill	10, 11	50x2½-54x2½		Ross	52, 0	W, Bimel	146	36x6p-36x6p	4,500		263
264	W, Own	N	S	2, R	9½, 8½	C, E	R, Own	½, ½		11, 11	41x2½-46x2½	L	Own	56, 0	W	144	34x4-34x4d	5,100	48, 70	264
265	W, Own			2, R		E, E	P, Own	½, ½	Tuthill				Ross		W, Bimel	150	34x4-36x4d			265
267	W, Own,	N	B	2, R	9½, 10	C, E	P, Smith	½, ½	Tuthill	8, 12	51x3-60x3	L	Ross	56, 0	W, Bimel	150	34x4-36x4d	5,200	51, 71	267
268	W, Own	N	W	2, R	13, 9½	C, E	P, Own	½, ½	Spring Perch	10, 13	41x2½-54x3	R	Own	42, 0	W, Own	150	36x4-36x4d	5,250	60, 75	268
269	W, Timken			2, R		E, E	P, Parish					L	Ross		S. Budd	144	36x4-36x7			269
270	W, Timken	Y		2, R		E, E	R, Own	½, ½	Detroit		44x2½-56x3	L	Ross		W, Hayes	150	36x4-36x4d			270
271	W Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P, Parish	½, ½	Perfection	9, 12	38x2½-50x2½	L	Ross		W, Schwarz	147	34x5-34x6	3,450	75, 75	271
272	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	140	34x4-36x3d	4,500	—, 62	272
273	W, Timken			2, R		E, E	R, Own		Merrill				Ross			132	36x4½-36x6			273
274	I, Torbensen, C2	Y	B	2, R	13, 13½	C, E	P, Savage	½, ½	Garden City	8, 12	38½x2½-54x3	L	Ross	60, 0	W, Standard	150	36x4-36x6	4,300	20, 70	274
275	W, Own	N	B	2, R	11, 9	C, E	R, Own	½ ½	National	9, 14	35x2½-50x3	L	Own		W, St. M'rys	144	36x4-36x7	5,500	80, 80	275
276	W, Timken			2, R			P, Smith		Perfection				Gemmer		W	153	36x4-36x6			276
277	W, Sheldon	Y	W	2, R			P, Parish & B		Mather		38x2½-54x2½	L	Ross		W, Royer	157	35x3-35x5			277
279	W, Timken, 6560	N	W	2, R	12½, 10	E, E	P, W	½c ½c	Mather	8, 11	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x4-36x6	5,000	45, 97	279
280	I, Clark, 2D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½	Detroit	9, 12	41x2½-54x3	L	Ross	50, 0	W, Wayne	156	34x4-34x7	4,460	59, 72	280
281	W, Sheldon	N		2, R		E, E	P, Smith	½, ½	Sheldon		40x2½-50x3	L			W, Bimel	140½	36x4-36x7	4,600		281
282	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	Parish & B	½, ½	Sheldon	9, 11	40x2½-52x3	L	Ross	52, 0	W, Wayne	150	36x4-36x7	4,750	53, 71	282
283	I, Torbensen, CE	Y	B	2, R	13, 13	C, E	P	½, ½	Tuthill	8, 13	38x2½-51x3	L	Ross	46, 0	W, Schwarz	144	36x4½-36x6	3,600	75, —	283
284	I, Russel, PI-302	Y	B	2, R	11, 12	C, E	R, Own	½, ½	Detroit	9, 10	36½x2-46x2½	L	Own	48, 6	W, Bimel	132	34x3½-34x5	3,175	42, 85	284
285	I, Clark, 2D	Y	B	2, R	10½, 11½	C, E	P	½, ½	Detroit	9, 12	40x2½-54x3	L	Jacox		W	150	36x6p-40x8p	4,250	50, 70	285
286	I, Clark, 2D	Y	W, Powrlok	2, R		C, C	R, Mason	½, ½	Detroit	10, 12	42½x2½-54x3	L	Gemmer	56, 0	W, Royer	147	36x4-36x6	4,200	60, 80	286
287	I, Russel, P-300	Y	B	2, R	12, 13½	C, E	R	½, ½	Higgins	9, 11	36x2½-50x2½	L	Lavine	46, 0	W, Standard	144	36x3½-36x5	4,200	40, 70	287
288	C, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	132	36x5-36x4d			288
289	I, Clark	Y	BW	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L			W, Prudden	140	—x4—x5	3,250	80, 80	389
290	W, Sheldon, W102	Y	W	2, R	12½, 10	E, E	P	½, ½	Sheldon	9, 12	42x2½-56x3	L	Gemmer	37, 10	I, Smith	142	36x4-36x6	4,700	40, 70	290
291	B, Own	N	B	2, R	10½, 9	C, E	P	½, ½				L	Own	60, 0	W	157½	36x4-36x7	4,150	54, 70	291
292	W, Sheldon	Y	W	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit			R	Ross		W	144	36x3½-36x6	4,400		292
293	I, Clark, 2D	Y	B	2, R	12, 11	C, C	R, Own	½, ½	Mather	8, 10	46x2½-56x3	R	Ross	60, 0	I, Own	147	34x4-34x4d	5,300	45, 80	293
293a	I, Russel	Y		2, R			P	½, ½			40x2½-54x3				W	144	34x1-34x3½d			293a

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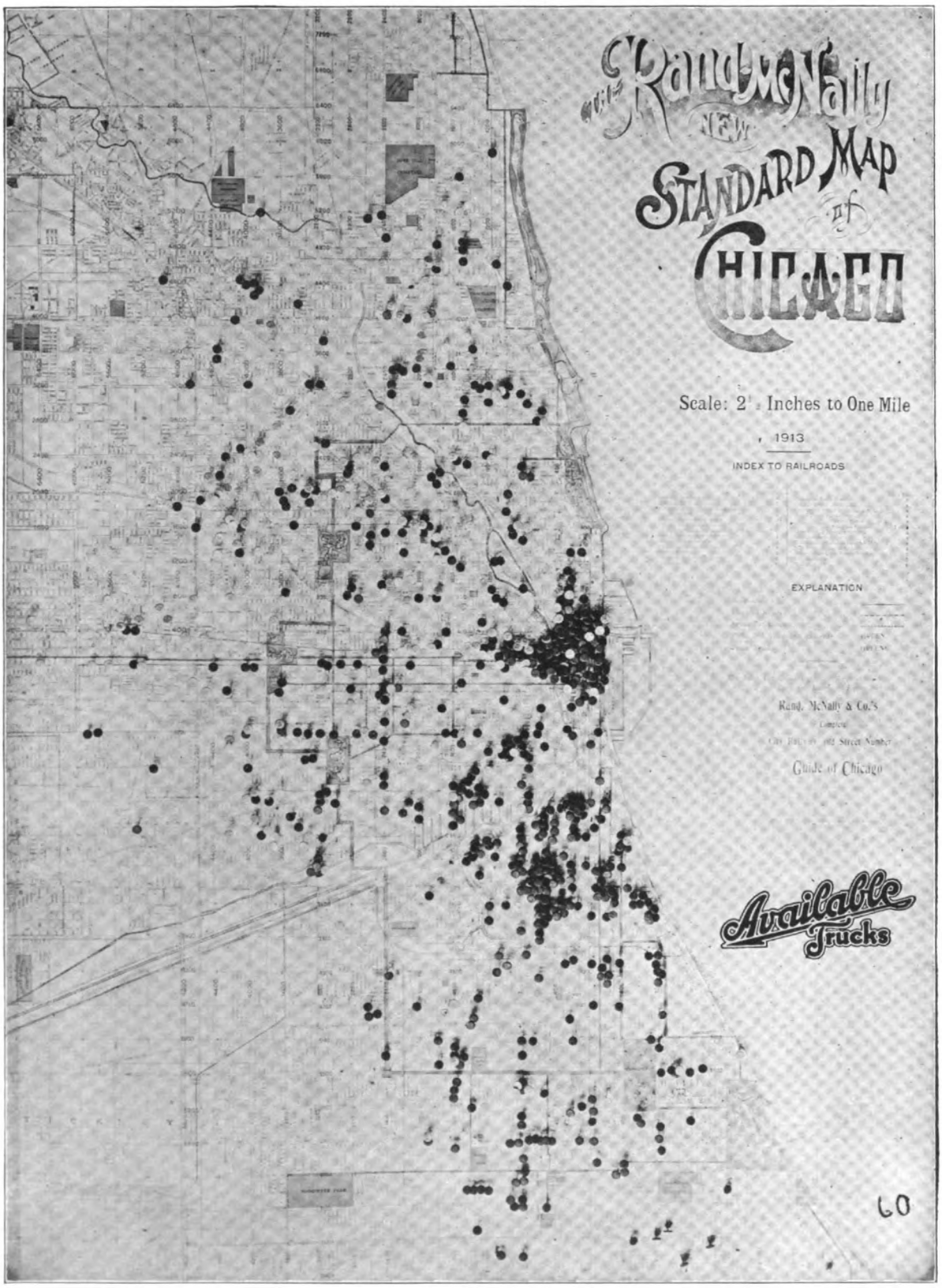

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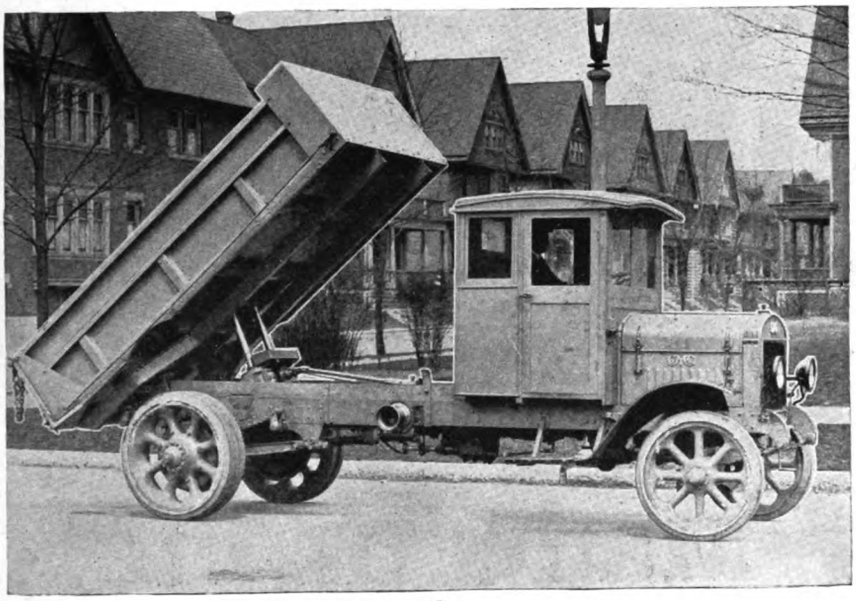

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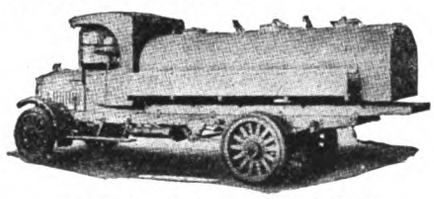

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	4,500 Pounds:																			
293b	Oneida, C9	3,390	Hinkl'y, HAA400	4	4x5½-25.6	F	Own	P	C. Modine	Y	Stromberg	G	M, Bosch	N	M. Fuller	S, 4	Fuller, G5	N	Spicer	293b
	5,000 Pounds:																			
294	Acason, H	3,850	Waukesha, CU	4	4¼x5½-30 6	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Detluff, H6.	I, 4	Cotta, R	Y	Blood	294
295	Ace, A	3,450	Buda, HU	4	4¼x5½-28.9	FS	Pierce	P	C, Modine	Y	Schebler	G	B.West'gh'se	Y	M. M & E	I, 4	Cotta	N	M & E	295
295a	Aetna	3,375	Wisc., UAU	4	4¼x6-28.9	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P. Borg & B	I, 4	Cotta, R	N	Spicer	295a
295b	All-American	2,395	Herschell-Spill'n	4	3½x5 -19.6	FS		T			Stromberg		M, Simms		M	I, 4	Cotta			295b
296	Apex, E	2,450	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	C, Candler	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, GU3	N	Detroit	296
297	Armleder, HW		Continental, C4	4	4¼x5½-27.2	FS		P	T, Long	N	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, U50	N	Spicer	297
298	Atterbury, 7CX	3,375	Continental, C4	4	4¼x5½-27.2	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	298
299	Available, H2½	3,250	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Ther.-Sp.	299
300	Beck, D	3,500	Continental	4	4¼x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	300
301	Bell	2,750	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit	Y	Universal	301
302	Bessemer, J2	3,285	Continental, C2	4	4¼x5½-27.2	S	Pierce	P	C, Standard	Y	Rayfield	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 50	N	Arvac	302
303	Bethlehem, H		Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Fuller, G5	N	Universal	303
304	Bets, D2	2,785	Buda, HU	4	4¼x5½-28.9	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4		N	Peters	304
305	Brockway, K4	3,060	Continental, C2	4	4¼x5½-27.2	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	305
306	Chicago, C2½	3,250	Hercules, CU3	4	4x5½-25.6	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Peters	306
307	Clydesdale, 65X	3,540	Continental, C4	4	4¼x5½-27.2	S	Own	P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	307
308	Columbia, G	2,750	Hinkley, 400	4	4x5½-25.6	F	Hinkley	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, RA3	N	Spicer	308
309	Concord, B	2,850	Buda	4	4¼x5½-28.9		Monarch	P	T, Bush		Zenith		M, Eisemann		M, Brown-L	S, 3	Brown-Lipe		Spicer	309
310	Dart, M	3,000	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Spicer	310
311	Day-Elder, C	2,950	Buda, TU	4	4¼x5½-28.9	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, RU3C	N	Hartford	311
312	DeKalb, E2½	2,600	Continental	4	4¼x5½-27.2		N	P	T, Jackson		Master		M, Eisemann	N	M, Fuller	S, 3	Fuller		Hartford	312
313	Denby, 25	3,250	Continental, C2	4	4¼x5½-27.2	F	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	313
314	Dependable, E	2,750	Buda, HTU	4	4¼x5½-28.9	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 4	Fuller, G5	N	Acme	314
315	Doane	3,750		4	4¼x5½-28.9	FS		P					M, Bosch		M	S, 3	Brown-Lipe			315
316	Erie		Continental	4	4¼x5½-27.2		Pierce		T		Stromberg		M, Bosch		M	S, 4				316
317	Fageol	3,400	Waukesha, RU4R	4	4¼x5½-28.9	S	Waukesha	P	C, Modine	N	Zenith	D G	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	317
318	Gary, J	3,150	Buda, HTU	4	4¼x5½-28.9	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	318
319	Gersix, G	3,150	Buda, LSU	4	4¼x5½-28.9	F	Simplex	P	T, Chicago		Stromberg		M, Bosch		P, Borg & B	I, 3	Cotta, BUA			319
320	Gersix, K	3,150	Buda, HU	4	3½x5½-19.6	S	Monarch	P	C, Ideal		Stromberg		M, Bosch		P, Borg & B	I, 3	Cotta, BUA			320
321	Gramm-Bernstein, 25	3,875		4	4¼x5½-28.9	F		P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	321
323	Hahn, E	2,500	Continental, E4	4	4¼x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			323
324	Hal-Fur, B	2,750	Buda	4	4¼x5½-28.9		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	324
325	Harvey, WFA	3,300	Buda	4	4¼x5½-28.9		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	325
326	Hawkeye, M	2,650	Buda	4	4¼x5½-28.9		Simplex	P	T, Ideal		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller		Hartford	326
327	Hurlburt	3,750	Buda	4	4¼x5½-28.9	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35			327
328	Indiana, 25	3,350	Own	4	4¼x5½-27.2	F	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Acme	328
329	Jumbo, 25		Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	329
330	Kalamazoo, H		Wisconsin, TAU	4	4x6-25.6	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	330
331	Kankakee, E	2,465	Continental N9	6	3½x5½-25.3	FS		P	C, Auto	N	Zenith	G	B	Y	M, Muncie	S, 3	M'e AS-5-T23N	N	Acme	331
332	Kelly-Sp'gf'ld, K35(ch'n)	3,500	Own	4	3½x5½-22.5	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, O	N	Own	332
333	Kelly-Sp'gf'ld, K36(w'm)	3,500	Own	4	3½x5½-22.5	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, O	N	Spicer	333
335	Kimball, C	3,975	Wisconsin, UU	4	4¼x6-28.9	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	335
335a	Kissel, Freighter	3,475	Own	4	4¼x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	335a
336	Kleiber, B	4,200	Continental, E4	4	4¼x5½-32.4	S	Pierce	P	T, R'e-T'n'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	336
337	Koehler, M	3,365	Hercules, CU3	4	4x5½-25.6	F	Simplex	P	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	337
338	K-Z	2,950	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	338
339	Larrabee, SK		Continental, C4	4	4¼x5½-27.2	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	339
340	L. M. C, 2-20	2,950	Continental, C2	4	4¼x5½-27.2	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Borg & B	S, 4	Detroit, H	N	Baker	340
341	Maccar, H	3,750	Continental, E4	4	4¼x5½-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Spicer	341
342	Mapleleaf, BB		Hinkley, HA500	4	4¼x5½-28.9	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	342
342a	Master, D, (int.)	3,540	Buda, HU	4	4¼x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342a
342b	Master, W, (worm)	3,290	Buda, HU	4	4¼x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342b
343	Midland, S	3,150	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-L, 50			343
344	Moreland, 19C	3,775	Continental	4	4¼x5½-32.4	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	344
344a	Nelson & LeMoon, F2½		Continental	4	4¼x5½-27.2		Pierce	P	T, Chicago		Stromberg		M, Bosch	N	M, Brown-L	S, 3	Brown-Lipe		Thermoid	344a
345	Netco, H	3,500	Continental, E4	4	4¼x5½-32.4	S	N	P	T, R'e-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	345
346	Noble, D50		Buda	4	4¼x5½-28.9		Pierce	P	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 4	Fuller		M & E	346
347	Ogden, C2		Continental, C2	4	3½x5-22.5	S	Pierce	T	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30		Acme	347
347a	O. K. L	3,250	Buda, HTU	4	4¼x5½-28.9	FS	Pierce	P	T, R'me-T'n'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, GU5		Hartford	347a
348	Old Reliable, B	3,250	Wisconsin, UU	4	4¼x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	348
348a	Orleans			4	4¼x5½-27.2			P	T	N	Master	G	M, Eisemann	N	M	I, 4	Cotta			348a
349	Paige, 50-18			4	4¼x5½-27.2		Simplex	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	349
350	Patriot, Washington	3,450	Hinkley, HA	4	4¼x5½-32.4	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Covert, RA4	N	Thermoid	350
351	Reliance, B20	3,200	Buda, HTU	4	4¼x5½-28.9	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	I, 4	Cotta, R	N	Peters	351
352	Republic, 19		Continental, C2	4	4¼x5½-27.2	FS	Pharo	P	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 4	Fuller, GU5	N	Spicer	352
353	Reynolds, 5A	3,800	Own	4	4¼x5½-28.9	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Own		Thermoid	353
354	Rowe, CDW	3,575	Wisconsin	4	4x5-25.6	F	Simplex	P	Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	354
355	Royal	3,500	Wisconsin	4	4¼x6-28.9		Monarch	T	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			355
356	Sandow, J	2,975	Continental, C4	4	4¼x5½-27.2	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	356
357	Sanford, W25	3,290	Cont nental, C4	4	4¼x5½-27.2	F	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 35	N	Spicer	357
358	Schacht		Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 4	Own	N	M & E	358
359	Schwarts, C2	2,675	Continental, K4	4	4¼x5½-27.2	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50	N	M & E	359
360	Selden, 2½A		Continental, C4	4	4¼x5½-27.2	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	360
361	Service, 51	3,475	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	361
361a	Signal, J	3,275	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	361a
361b	Standard, 76		Continental, C2	4	4¼x5½-27.2	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	361b

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TRUCK SPECIFICATIONS

4,500—5,000 (Standard)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
293b	W, Wisc., 900C..	N	B	2, R	10½, 9	E, E	P, Detroit....	½, ½	Mather....	9, 13	40x2½-56x3 ...	L	.....	.....	W	160	36x3-36x7.....	5,200	60, 85	293b
294	W, Timken, 6560..	Y	W	2, R	13, 10	E, E	P, Savage....	½, ½	Detroit....	10, 14	40x2½-50x3....	L	Ross.....	.....	W, Bimel...	150	36x4-36x8.....	4,850	—, 76	294
295	W, Timken, 6560..	Y	W	2, R	11½, 9½	E, E	P, Parish & B..	½, ½	Mather....	10, 12	39x2½-54x3....	L	Ross.....	60, 0	S, Davton..	156	36x6p-40x8p.....	5,650	25, 60	295
295a	W, Sheldon, W21.	N	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	12, 14	40x2½-52x3....	L	Ross.....	.....	W.....	150	36x4-36x4d	.....	50, 70	295a
295b	I, Torbensen	...	W, Powrlok.	2, R	.....	...	P.....	½, ½	.....	10, 12	40x2½-54x3.....	...	.....	.....	W.....	130	34x4-34x6.....	.....	.....	295b
296	I, Torbensen	Y	B	2, R	11, 13½	C, E	R.....	½, ½	Detroit....	10, 13	39½x2½-52½x3..	L	Lavine....	.....	W, Bimel...	150	36x4-36x6.....	4,510	—, 66	296
297	W, Timken, 1540B	N	W	2, R	10, 10	E, E	P.....	½, ½	Mather....	7, 9	42x2½-60x3....	L	Ross.....	52, 0	W,St.M'rys.	148	36x4-36x4.....	4,600	60, 80	297
298	W, Timken, 6560..	Y	B	2, R	15. 9½	E, E	P.....	½, ½	Spring Perch	9, 12	41½x2½-54x3...	R	Gemmer..	55, 9	W, Arch'b'ld	153½	36x4-36x4d.....	5,070	.....	298
299	W, Wisc., 900C...	N	W	2, R	11, 10	E, C	R, Own.....	½, ½	Tuthill....	9, 14	40x2½-52x3....	L	Ross.....	44, 0	W, Schwars.	152	36x4-36x8.....	5,000	55, 75	299
300	W, Timken.....	N	W	2, R	14. 12	C, E	P.....	½, ½	Higgins....	9, 15	40x2½-52x3½....	L	Lavine....	48, 0	W, Bimel...	144	36x5-36x8.....	4,200	30, 75	300
301	I, Russel.....	Y	B	2, R	11,14	C, E	R, Own.....	½, ½	Detroit	9, 14	42x2½-56x3....	L	Gemmer..	52, 0	W, Bimel...	146	34x4-34x6.....	4,200	50, 70	301
302	I.....	N	B	2, R	9½, 12	C, E	P.....	½, ½	Perfection..	10, 12	41½x2½-56x3..	L	Ross.....	.....	W, Schwars.	158	36x4-36x4d.....	4,625	50, 75	302
303	I, Russel, RI300..	Y	B	2, R	12½, 13½	C, E	P, Detroit....	½, ½	Mather	9, 11	40x2½-56x3....	L	Lavine...	51, 0	I. Smith....	143	34x4-34x6.....	3,950	—, 90	303
304	W, Timken, 6560..	Y	B	2, R	11, 9	E, E	P, Parish & B..	½, ½	Temme....	8, 14	40x2½-55x3....	L	Ross.....	35, 0	S, Dayton..	150	36x4-36x7.....	4,750	75, —	304
305	W, Timken, 6560..	N	B	2, R	.....	E, E	P.....	½, ½	Merrill....	10, 13	43x2½-51½x3....	L	Gemmer..	.....	W, Hoopes..	152	36x4-36x7.....	4,850	54, 84	305
306	W, Timken, 6560..	Y	B	2, R	12 ,9	E, E	R, Own.....	½, ½	Mather....	9, 13	40x2½-54x3....	L	Gemmer..	.....	W, Standard	156	36x4-36x7.....	4,610	60, 75	306
307	W, Timken, 6560..	N	B	2, R	11½, 9	E, E	P, Parish & B..	½, ½	Perfection..	7, 10	44x3-52x3	L	Ross.....	61, 0	I, Smith....	163	36x4-36x7.....	4,850	60, 80	307
308	I, Russel, NI-400..	Y	B	2, R	.....	C, E	R.....	½, ½	Perfection..	9, 11	40x2½-52x3½...	L	Own.....	.....	W,St.M'rys.	144	36x4-36x7.....	5,100	.....	308
309	W, Timken.....	...	.....	2, R	.....	E, E	P, Parish & B..	...	Spring Perch	...	.....	L	Ross.....	.....	W, Crane...	150	36x4-36x4d.....	.....	.....	309
310	W, Own.....	Y	B	2, R	10½, 10½	E, E	P, Savage.....	½, ½	Perfection..	8, 11	39x2½-56x3....	L	Ross.....	50,0	W, Prudden.	150	36x4-36x7.....	4,750	50, 80	310
311	W, Sheldon, W21.	Y	B	2, R	12½, 9½	E, E	P, Savage.....	½, ½	Iron City...	9, 14	42x2½-56x3 ...	L	Gemmer.	54, 0	W, Jones...	150	36x4-36x7.....	5,000	50, 70	311
312	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish.....	...	Mather.....	...	.....	L	Ross.....	.....	W, Schwars.	136	36x4-36x6.....	.....	.....	312
313	I, Russel, U.....	Y	B	2, R	10, 13	C, E	P, Detroit.....	½, ½	Detroit....	10, 14	44x2½-54x3½...	L	Gemmer..	57, 1	S, Dayton..	149½	36x4-36x7.....	4,790	52, 79½	313
314	W, Wisc., 900C...	Y	W	2, R	10, 10	E, C	P.....	½, ½	Perfection..	11, 14	42x2½-52x3....	L	Ross.....	36, 0	W, Bimel...	157	36x4-36x7.....	5,600	40, 70	314
315	C.....	....	.....	2, R	.....	E, E	P.....	½, ½	.....	...	.....	...	.....	.....	W.....	156	36x5-36x7.....	.....	.....	315
316	W, Timken.....	....	.....	...	.....	...	P.....	...	.....	...	.....	...	Ross.....	.....	.....	160	34x4-36x5.....	.....	.....	316
317	W, Timken, 6560..	Y	B	2, R	9½, 10	E, C	R, Own.....	½, ½	Mather....	9, 13	41x2½-56x3....	L	Ross.....	56, 1	W, Prudden.	144	34x4-36x7.....	4,600	50, 71	317
318	W, Timken, 6560..	Y	W	2, R	12, 10½	E, E	P.....	½, ½	Tuthill....	11, 13	44x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	148	36x4-36x7.....	4,850	50, 20	318
319	W, Own.....	....	.....	2, R	.....	C, E	R, Own.....	½, ½	Tuthill....	...	.....	...	Ross.....	.....	W, Jones...	150	36x4-36x7.....	.....	.....	319
320	W, Own.....	....	.....	2, R	.....	C, E	R, Own.....	½, ½	Tuthill....	...	.....	...	Ross.....	.....	W, Jones...	150	36x4-36x7.....	.....	.....	320
321	W, Standard.....	Y	B	2, R	.....	E, E	P, Own.....	½, ½	Perfection..	.....	46x2½-58x3....	L	Ross.....	59, 6	I, Smith....	150	36x4-36x4d.....	5,300	73½, 91	321
323	W, Timken.....	....	.....	2, R	.....	...	P.....	...	Delaney....	...	.....	...	Ross.....	.....	W.....	156	36x4-36x4d.....	.....	.....	323
324	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish & B..	...	Spring Perch	...	.....	L	Gemmer..	.....	S, Massillon.	168	35x5-36x7.....	.....	.....	324
325	W, Sheldon.....	....	.....	2, R	.....	E, E	R, Own.....	...	Sheldon....	...	.....	L	Ross.....	.....	W, Schwars.	150	36x4-36x7.....	.....	.....	325
326	I, Clark.....	....	.....	2, R	.....	C, E	R, Own.....	½, ½	Detroit....	...	.....	L	Ross.....	.....	W, Bimel...	148½	36x4-36x6.....	.....	.....	326
327	W, Hindley.....	....	.....	2, R	.....	E, C	P, Savage.....	½, ½	Perfection..	...	.....	...	Ross.....	.....	W, Wayne..	170	36x4-36x4d.....	.....	.....	327
328	W, Sheldon, W21..	N	B	2, R	12½, 9½	E, E	R.....	F, ½	Sheldon....	9, 14	40x2½-50x3....	L	Wohlrab..	50, 0	W, Bimel...	156	36x4-36x8.....	6,000	61, 71½	328
329	I, Clark, 2D.....	Y	B	2, R	10, 11½	C, E	P.....	½, ½	Detroit....	9, 14	40x2½-54x3....	L	Jacox....	45, 0	S, Clark....	152½	36x4-36x7.....	4,800	50, 75	329
330	W, Sheldon, W21..	N	W	2, R	9½, 9	E, E	R.....	½, ½	Sheldon....	8, 13	42x2½-56x3....	L	Ross.....	34, 3	I, Smith....	160	36x4-36x8.....	6,200	—, 80	330
331	I, Russel, S.....	Y	B	2, R	9, 13½	C, E	R, Own.....	½, ½	Temme....	9, 11	39½x2½-49½x3..	L	Ross.....	.....	W, Bimel...	170	34x4-34x6.....	4,200	30, 70	331
332	C, Own.....	N	B	2, R	9½, 16	E, E	P.....	½, ½	Perfection..	11, 13	40x2½-44x2½....	L	Gemmer..	48, 0	W.....	144	36x4-36x4d.....	5,200	50, 90	332
333	W, Own.....	N	B	2, R	9½, 9½	E, E	P.....	½, ½	Perfection..	11, 12	40x2½-47½x3....	L	Gemmer..	48, 0	W.....	144	36x4-36x4d.....	5,540	50, 90	333
335	W, Sheldon, W21..	Y	B	2, R	.....	E, C	P, Parish.....	½, ½	U. S.....	11, 13	40½x2½-50½x3...	L	Ross.....	39, 6	I, Smith....	.....	36x6p-36x8.....	.....	50. 80	335
335a	W, Timken, 6560..	Y	W	2, R	10½, 10	E, E	P. Smith.....	½, ½	Mather....	10, 11	38x2½-54x3....	L	Lavine...	50, 0	W Prudden.	168	36x4-36x7.....	5,200	57½, 76	335a
336	W, Sheldon, W21..	Y	W	2, R	9½, 9½	E, E	R, Own.....	½, ½	Betts.....	8, 14	44x3-52x3....	R	Ross.....	.....	W,Wat'rh'se	160	36x4-36x8.....	5,900	50, 75	336
337	W, Timken, 6560..	Y	B	2, R	12, 9½	E, E	P, Parish & B..	½, ½	Mather....	10, 12	40x2½-56x3....	L	Lavine....	.....	W, Wayne..	162	36x4-36x7.....	5,000	50, 75	337
338	W, Timken, 6560..	N	B	2, R	12½, 10½	E, E	R, Own.....	½, ½	Tuthill....	8, 10	40x2½-50x3....	L	Ross.....	64, 8	W,St.M'rys.	150	36x4-36x8.....	4,800	.....	338
339	W, Sheldon, W21..	Y	B	2, R	15, 10	E, E	P, Parish & B..	½, ½	Merrill....	9, 13	41x2½-54x3....	L	Ross.....	.....	W, Hoopes..	156	36x4-36x7.....	5,200	42, 86	339
340	I, Russel, S.....	Y	B	2, R	10½, 14½	C, E	R, Chopper....	½, ½	Mather....	9, 11	42x2½-56x3....	L	Lavine...	47, 0	W, Bimel...	164	36x4-36x4d.....	4,500	53, 75	340
341	W, Timken, 6560..	N	B	2, R	12½, 10	E, E	P, Parish.....	½, ½	Merrill....	8, 12	42x2½-56x3....	L	Ross.....	.....	S, Dayton..	162	36x4-36x4d.....	5,000	—, 70	341
342	W, Sheldon, W21..	Y	B	2, R	11½, 9½	E, E	R.....	½, ½	Sheldon....	.....	44x2½-54x3....	L	Ross.....	.....	W, Hayes...	150	36x4-36x4d.....	5,500	50, 70	342
342a	I, Walker.....	Y	BS	2, R	.....	C, E	P, Parish & B..	½, ½	Detroit....	11, 13	44½x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	144	34x4-36x7.....	4,300	53, 76	342a
342b	W, Timken, 6560..	Y	B	2, R	9½, 10½	E, E	P, Parish & B..	½, ½	Detroit....	11, 13	44½x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	144	34x4-36x7.....	4,500	53, 76	342b
343	W, Sheldon, W21..	....	.....	...	.....	E, E	P, Parish & B..	½, ½	Sheldon....	...	.....	...	Ross.....	.....	I, Smith....	150	36x4-36x7.....	.....	.....	343
344	W, Timken, 6552..	N	W	2, R	12, 10	E, E	P.....	½, ½	U. S.....	10, 11	39½x2½-50x3½..	L	Ross.....	50, 0	I. Smith....	144	36x4-36x7.....	5,400	50, 65	344
344a	W, Timken, 6560 ..	Y	.....	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	...	.....	R	Lavine...	.....	W, Prudden.	.....	36x4-36x7.....	.....	.....	344a
345	W, Timken, 6560..	Y	B	2, R	12, 11	E, E	P.....	½, ½	Perfection..	10, 15	39x2½-49½x3...	L	Ross.....	.....	W, Arch'b'ld	168	36x4-36x8.....	5,120	57, 65	345
346	W, Sheldon.....	....	.....	2, R	.....	E, E	P, Parish & B..	...	Tuthill....	...	.....	L	Lavine...	.....	W. Bimel...	162	36x4-36x8.....	.....	.....	346
347	W, Timken.....	Y	B	2, R	10, 10	E, E	P Garden City.	C, C	Tuthill.....	8, 10	38x2½-50x2½...	L	Gemmer..	.....	W, Stanadrd	160	36x3½-36x4.....	3,400	—, 70	347
347a	W, Wisc., 900.....	....	.....	...	.....	E, E	P, Savage.....	½, ½	Liggett.....	...	.....	...	Ross.....	.....	W, Bimel...	150	336x4-36x8.....	.....	.....	347a
348	W, Sheldon, W21..	Y	W	2, R	10½, 9½	E, E	R.....	½, ½	Sheldon....	9, 14	46x3-54x3.....	R	Ross.....	.....	W,St.M'rys.	160	34x4-36x4d.....	5,750	—, 70	348
348a	W.....	N	.....	2, R	.....	E, E	R.....	½, ½	.....	...	42x2½-54x3	...	Ross.....	.....	I, Smith....	160	36x4-36x7.....	.....	.....	348a
349	W, Timken.....	N	B	2, R	.....	E, E	P.....	½, ½	Perfection..	11, 11	45x2½-54x3.....	L	Jacox....	.....	S, Dayton..	150	34x4-34x4d.....	5,000	60, 75	349
350	W, Empire, O....	Y	B	2, R	10, 10½	E, E	P, Detroit.....	½, ½	Cooper.....	10, 15	44x2½-56x3....	L	Ross.....	51, 10	W, Bimel...	156	36x4-36x7.....	5,200	49, 82	350
351	S, Own.....	N	B	2, R	10, 10½	E, E	P, Savage.....	½, ½	Sheldon....	9, 11	46x2½-58x2½...	L	Ross.....	.....	W, Bimel...	156	36x4-36x4d.....	5,500	40, 85	351
352	I, Torbensen, C2..	Y	W, Powrlok..	2, R	.....	E, E	P, Detroit.....	½, ½	Mather....	9, 13	38½x2½-52½x3...	L	Jacox....	.....	W.....	144	36x4-36x7.....	4,200	.....	352
353	W, Own.....	Y	B	2, R	11, 9½	E, E	R, Standard...	½, ½	Own.....	.....	40x2½-54x3.....	L	Own.....	.....	I, Smith....	154	36x4-36x8.....	.....	.....	353
354	W, Sheldon, W21..	....	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	...	.....	L	Ross.....	.....	W, Hoopes..	162	34x4-36x4d.....	4,500	—, 64	354
355	W, Timken	....	.....	2, R	.....	E, E	R, Own.....	...	Merrill....	...	.....	...	Ross.....	.....	W.....	132½	36x4½-36x6.....	.....	.....	355
356	W, Timken, 6560.	Y	W	2, R	9½, 9½	E, E	P, Savage.....	½, ½	Garden City	8, 13	38½x2½-54x3....	R	Ross.....	36, 0	W, Standard	165	36x4-36x7.....	4,650	20, 70	356
357	W, Sheldon, W21..	Y	B	2, R	11, 9½	E, E	P.....	½, ½	Perfection..	9, 13	42x2½-52x3....	L	Ross.....	58, 0	W, Hoopes..	174	36x4-36x4d.....	5,500	73, 87	357
358	W, Own.....	N	B	2, R	11, 9	C, E	R, Own.....	½, ½	National....	9, 14	35x2½-50x3....	L	Own.....	.....	W,St.M'rys.	156	36x4-36x4d.....	6,000	80, 80	358
359	I, Torbensen, D...	Y	B	2, R	10, 11½	C, E	P, Parish.....	½, ½	Rowland...	10, 15	40½x2½-54x3....	L	Ross.....	.....	W, Schwars.	150	34x4-34x7.....	4,200	.....	359
360	W, Timken, 6560..	N	B	2, R	12, 10½	E, E	P, Parish & B..	½, ½	Perfection..	9, 14	40x2½-54x3....	R	Gemmer..	54, 0	W.....	145	36x4-36x7.....	5,400	56, 75	360
361	W, Timken, 6560..	Y	B	2, R	12, 9½	E, E	P.....	½, ½	Mather....	10, 14	42x2½-54x3....	L	Ross.....	48, 0	W, Bimel...	160	36x4-36x7.....	5,180	—, 70	361
361a	W, Timken, 6560..	N	B	2, R	11, 11	E, E	P, Savage.....	½, ½	Detroit....	10, 13	44x2½-56x3....	L	Ross.....	60, 0	W, Hayes...	150	34x4-36x8.....	5,210	—, 76	361a
361b	W, Timken, 6560..	N	B	2, R	12, 9½	E, E	R, Own.....	½, ½	.....	8, 12	38x2½-54x3....	L	Ross.....	.....	W.....	140	36x4-36x7.....	4,430	59, 71	361b

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5,000 (Sterling)—7,000 (Kelly-Springfield) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	5,000 Pounds—Con.																			
362	Sterling	3,475	Own	4	4½x5½-30.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	362
363	Super, 50		Wisconsin, TAU	4	4x6-25.6	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Thermoid	363
364	Tiffin, MW	3,200	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Peters	364
365	Titan	3,400	Buda, HTU	4	4½x5½-28.9	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, AU	N	M & E	365
366	Tower, H	3,385	Continental, C4	4	4½x5½-27.2	S	Pierce	P	T, Own	N		G	M	N	M, Fuller	S, 3	Fuller, TU	N		366
367	Traylor, D	3,375	Buda, MTU	4	4½x5½-28.9	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 4	Covert	N		367
368	Triangle, B	2,850	Waukesha, FU	4	4x5½-25.6	FS	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Detroit	368
369	Ultimate, B		Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	369
370	Union, F	3,150	Wisconsin, TAU	4	4x6-25.6	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	370
371	United, B		Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			371
372	U. S., H	3,250	Continental	4	4½x5½-27.2		Pierce	P	C, Fedders		Stromberg		M, Eisemann		C, Hartford	S, 4	Brown-L		Blood	372
372a	Vulcan, 25	3,750	Wisc., UAU	4	4½x6-28.9	F	Pierce	P	T	Y	Zenith	G	M, Eisemann	N	M, Brown-L, 50	S, 4	Brown-L, 50	N	Spicer	372a
373	Walker-Johnson, B	2,890	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T,		Zenith		M, Eisemann		M	S, 4				373
374	Ward LaFrance, 2B	3,590		4	4½x5½-30.6	F		P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	374
375	Watson, 19		Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	T, R'e-T'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	375
375a	White Hickory, K	3,150	Continental, C2	4	4½x5½-27.2	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	M & E	375a
376	Wichita, R	3,000	Waukesha, BX	4	3½x5-22.5	P	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 3	Cotta	N	Thermoid	376
376a	Wichita, RX	3,600	Beaver, JB	4	4½x6-28.9	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	I, –	Cotta	N	Thermoid	376a
377	Wilcox, C		Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		377
378	Wilson	3,150	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Thermoid	378
379	Winther, 450	3,690	Wisconsin, EAU	4	4x5-25.6	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU5	N	Peters	379
380	Wisconsin, C	2,850	Waukesha	4	4x5½-25.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			380
381	Witt-Will, P	2,950	Continental	4	4½x5½-27.2		Pierce	P	C, Modine		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	381
	6,000 Pounds:																			
382	A & B, 3T	4,500	Own	4	5½x4½-42.8		N	P	T, Bush		Schebler		M, Bosch	N	N	* 2	*		Franck	382
383	Beck, D	3,500	Continental	4	4½x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	383
384	Beech Creek, 3A	3,850	Waukesha	4	4½x5½-28.9		Waukesha	P			Master		M, Eisemann		M, Fuller	S, 3	Fuller			384
384a	Douglas, I	3,350	Buda	4	4½x5½-28.9		Pierce	P	, Own		Schebler		M, Eisemann		M, Fuller	S, 4	Fuller		Arvac	384a
385	Forschler, BX	3,450	Continental	4	4½x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 4	Fuller		Own	385
386	FWD, B	4,750	Wisconsin, A	4	4½x5½-36.1	FS	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Hele-Shaw	I, 3	Cotta, DAF	N	Blood	386
387	Jumbo, 30		Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	387
388	Kimball, K	4,400	Wisconsin, AU	4	4½x5½-36.1	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	388
390	Packard, 3E	4,350	Own	4	4½x5½-32.4	F	Own	P	C, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther.-Sp.	390
391	Riker, B		Own	4	4½x6-28.9	S	Own	P	T	N	Own	G	M, Berling	N	C, Own	S, 4	Own	N	Own	391
392	Rowe, GSW (4-cyl.)	3,900	Wisconsin	4	4x5-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	392
393	Rowe, GPW (8-cyl.)	4,950	Herschell-Spill	8	2½x5-16.2	F	N	P	C, Fedders		Zenith		Atwater-K	Y	M, Brown-L	S, 4	Brown-Lipe		Spicer	393
393a	Stoughton, F			4	4½x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann		M, Brown-L	S, 4	Brown-L	Y	Thermoid	393a
394	Vim, 23	3,950	Hercules	4	4½x5½-28.9	F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	394
395	Walter (N. Y.), T		Waukesha, CU	4	4½x5½-30.6	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Brown-L, 50		M & E	395
396	White, 40	4,500	Own	4	3½x5½-22.5	F	Own	P	T, Own	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	396
	7,000 Pounds:																			
397	Acason, L	4,900	Waukesha, DU	4	4½x6½-32.4	F	Waukesha	P	C, National	Y	Stromberg	G	M, Eisemann	N	M, Detlaff, H8	I, 4	Cotta, R	Y	Blood	397
398	Acme, C	4,050	Continental, E7	4	4½x5½-32.4	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	N	Blood	398
398a	Aetna	4,375	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, S	N	Spicer	398a
399	All-Power, SV4	4,800	Continental	4	4½x5½-32.4		Pharo	P	T, McCord		Zenith		M, Eisemann	Y	M, Detlaff	I, 3	Cotta		Universal	399
400	Armleder, KW		Continental, E4	4	4½x5½-32.4	FS		P	T	N	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, U50	N	Spicer	400
401	Atterbury, 7D	4,175	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	401
402	Available, H3½	4,200	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Ther.-Sp.	402
403	Belmont, D	3,550	Buda, YU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, G	N	Sterling	403
404	Bethlehem, J		Own	4	4½x5½-32.4	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 4	Fuller, G5	N	Universal	404
405	Brockway, R2	3,900	Continental, E4	4	4½x5½-32.4	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	405
406	Chicago, C3½	4,450	Hercules, MU3	4	4½x5½-32.4	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Peters	406
407	Clydesdale, 90	4,400	Continental, E4	4	4½x5½-32.4	S	Own	P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	407
408	Dart, W	4,000	Buda, YU	4	4½x6-32.4	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, HU	Y	Spicer	408
409	Day-Elder, F	3,700	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 50	N	Hartford	409
410	Denby, 27	4,250	Continental, E7	4	4½x5½-32.4	F	Monarch	P	T, Long	Y	Stromberg		M, Eisemann	N	M, Own	S, 4	Fuller, G5	N	Universal	410
411	Diamond T, K	4,825		4	4½x5½-28.9	FS		P	T, G & O	N	Stromberg	G	M, Bosch	N	M	S, 4		N	Spicer	411
412	Dorris, K7	4,400	Own	4	4½x5½-28.9	F	Own	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Warner	S, 4	Warner, T53	N	Spicer	412
413	Duplex, E	4,250	Buda, TU	4	4½x5½-28.9	S	Duplex	P	T, Long	N	Schebler	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Peters	413
414	Erie		Continental	4	4½x5½-32.4		Pierce		T		Stromberg		M, Bosch			S, 4				414
415	Fageol	4,500	Waukesha, DU	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	415
416	Federal, WD	3,850	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner, AXD	N	Spicer	416
417	Garford, 77C	4,300		4	4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		417
418	Garford, 77D	4,190		4	4½x6-32.4	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		418
419	Gary, KL	4,150	Buda, YTU	4	4½x6-32.4	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	419
420	Giant, 17	4,150	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	C, Own	Y	Stromberg	G,K	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N		420
421	GMC, 71A	4,225	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	421
422	Gramm-Bernstein, 35	4,775		4	4½x5½-32.4	F		P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	422
423	Hall	3,750	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	423
424	Harvey, WHA	4,300	Buda	4	4½x6-32.4		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	424
425	Hendrickson	3,800	Buda	4	4½x5½-28.9		Pierce	P	T, Chicago		Stromberg		M, Dixie	N	M, Fuller	S, 4	Fuller			425
426	Hurlburt, C	4,400	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50			426
427	Indiana, 35	4,150	Own	4	4½x5½-30.6	F	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	427
428	International, L	4,500	Own	4	4½x5-28.9	FS	Own	T	T, Long, McC	Y	Ensign	G	M, Dixie	N	M, Own	S, 4	Brown-L	N	Own	428
429	Jackson, C1920	4,250	Continental	4	4½x5½-32.4		Pierce	P	T, Long		Stromberg		M, Eisemann		P, Borg & B	S, 4	Own		Spicer	429
430	Jumbo, 35		Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	430
431	Kalamazoo, K		Wisconsin, UAU	4	4½x6-28.9	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	431
432	Kelly-Sp'gf'ld, K40(ch'n)	4,400	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	Y	M, Eisemann	N	C	S, 3	Covert, K	N	Own	432

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TRUCK SPECIFICATIONS

5,000 (Sterling)—7,000 (Kelly-Springfield)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
362	W, Timken, 6560..	N	W	2, R	12½, 10	E, E	P	Mather	8, 12	48x3-54x3	L	Ross	52, 9	W, Prudden	150	36q4-36x4d	5,500	58, 88	362
363	W, Sheldon, W21..	Y	B	2, R	11½, 9½	E, E	P	Sheldon	10, 12	40x2½-50x3	L	Lavine	49, 0	W	156	36x4-36x8	5,250		363
364	W, Sheldon, W21..	N	B	2, R	10, 11	E, E	P	Kalamazoo	11, 14	44x2½-50x3	L	Ross	52, 0	I, Smith	148	36x4-36x3½d	4,890	40, 60	364
365	I, Clark, 2D	N	B	2, R	11, 14	E, C	P, Parish & B.	Sheldon	9, 11	46x2½-54x3	L	Wohlrab	38, 0	W	156	34x4-36x4d	4,975	51, 78	365
366	W, Timken	N	B	2, R	11, 11	E, E	P	Detroit		44x2½-56x3	L	Ross		W	146	36x4-36x7	4,700	—, 75	366
367	W, Sheldon, W21..	Y	W	2, R		E, E	P, Savage			40x2½-52x3	L	Ross		W, Schwarz	150	36x4-36x7	5,500		367
368	I, Clark, 2D	Y	W, Powrlok	2, R	13, 11	C, C	R	Detroit	10, 12	42½x2½-54x3	L	Gemmer	56, 0	W, Royer	151	36x4-36x7	4,900	60, 80	368
369	W, Sheldon, W21..	N	B	2, R	10, 9½	E, E	P	Sheldon	10, 16	39x2½-52x3	L	Ross	49, 0	W	154	36x4-36x4d	5,340	50, 70	369
370	I, Russel, T	Y	B	2, R	13, 16	C, E	P, Own	Mather	8, 14	44x2½-56x3	L	Ross		W, Prudden	152	36x5-36x8	5,100	50, 70	370
371	I, Clark, 2D			2, R		E, C	P, Detroit	Detroit				Jacox		W	151	36x4-36x7			371
372	W, Sheldon			2, R		E, E	R, Own	Sheldon			L	Lavine		W, Schwarz	144	34x4-36x4d			372
372a	W, Sheldon	N		2, R		E, E	P			45x2½-55x3	L	Ross		I, Smith	148	36x4-36x8			372a
373	W, Timken			2, R		E, E						Ross		W	150	36x4-36x8			373
374	W, Timken, 6560..	N	W	2, R	12½, 9½	E, E	P, Detroit			40x2½-54x3	L	Ross		W	158	36x4-36x4d	5,400	—, 85	374
375	W, Empire, O	Y	B	2 R	11, 10	E, E	P, Parish	Sheldon		42x2½-54x3	L	Gemmer		W, Crane	156	36x4-36x7			375
375a	W, Timken, 6560.	Y	W	2, R	12, 9½	E, E	P, Parish & B.	Sheldon	8, 12	44x2½-56x3	L	Lavine	52, 0	W, Bimel	150	36x4-36x7	4,650	54, 78	375a
376	W, Sheldon	Y	W	2, R	11, 9½	E, E	P, Own	Detroit			R	Ross		S	144	36x4-36x7	4,500		376
376a	W, Sheldon	Y	W	2, R	11, 9½	E, E	P, Own	Detroit			R	Ross		S	160	36x4-36x8	5,600		376a
377	W, Wisc., 900C	Y	B	2, R		E, E	P	Sheldon	9, 12	40x2½-56x3	L	Own		I, Smith	150	36x4-36x3	5,000	25, 75	377
378	W, Timken, 6560.	Y	B	2, R	12½, 9½	E, E	R, Own	Perfection	11, 12	40x2½-52x3	L	Ross		W	152	36x4-36x7	4,600	60, 80	378
379	I, Clark, 2D	Y	B	4, FR	12½, 12	C, E	R, Own	Mather	11, 15	40x2½-48x2½	L	Lavine	62, 0	I, Own	150	34x5-36x6	4,800	30, 60	379
380	W, Sheldon			2, R		E, E	P, Smith					Lavine		W	156	36x4-36x6			380
381	W, Timken			2, R		E, E	P, Parish				L	Ross		W, Archibald	144	36x3½-36x7			381
382	I, Own			2, F		C, E	R, Own	Spring Perch			R	Gemmer		W, Archibald	144	48x3½d-48x3½d			382
383	W, Timken	N	W	2, R	14, 12	C, E	P	Higgins	9, 15	40x2½-52x3½	L	Lavine	48, 0	W, Bimel	144	36x5-36x8	4,200	30, 75	383
384	B, Own			2, R		C, C						Own			132	36x6-36x6			384
384a	W, Wisconsin			2, R				Own				Ross			136	36x5-36x8	4,750		384a
385	W, Sheldon			2, R		E, E	R, Own	Own			L	Ross		I, Smith	144	36x4-36x8			385
386	B, Own	Y	B	4, FR	9½, 9½	C, C	P, Parish & B.	Tuthill	11, 10	45½x2½-44x2½	R	Ross	51, 0	W, Schwarz	124	36x6-36x6	6,400	38, 55	386
387	I, Clark, 2D	Y	B	2, R	10, 13½	C, E	P	Detroit	9, 14	40x2½-54x3	L	Jacox	45, 0	S, Clark	152½	36x6p-42x9p	5,000	50, 75	387
388	W, Sheldon, W21.	Y	B	2, R		E, C	P	U. S	11, 13	40½x2½-50½x3	L	Ross	39, 6	I, Smith		36x4-36x10		50, 80	388
390	W, Own	N	S	2, R	10½, 9½	C, E	R, Own		11, 12	42½x3-46x3	L	Own	56, 0	I	156	36x5-36x5d	7,000	52, 72	390
391	W, Own	N	B	2, R	12, 9	C, E	P		9, 14	42x3-54x3	R	Ross	55, 0	S	150	36x5-36x5d	6,900	62, 75	391
392	W, Sheldon			2, R			R, Own	Sheldon			L	Ross		W, Hoopes	158½	36x5-36x5d	4,800	—, 62	392
393	W, Sheldon			2, R			R, Own	Sheldon			L	Ross		W, Hoopes	170	38x7p-42x9p	5,580	—, 61	393
393a	W, Sheldon	N		2, R		E, E	P	Sheldon			L			W, Bimel	155	36x5-36x5d			393a
394	W, Sheldon, W21.	Y	W	2, R	10½, 9	E, E	P	Sheldon	10, 11	42x3-58x3½	L	Gemmer	46, 2	I, Smith	175	36x5-36x5d	6,000	40, 70	394
395	I, Own	Y	W	2, R	14, 14	C, C	P	Perfection		48x3-52x4	L	Ross	48, 0	S, Dayton	168	38x7p-42x9p	6,000	50, 75	395
396	I, Own	N	BS	2, R	10½, 10½	C, E	R				L	Own	61, 0	S	1743	6x5-40x5d	7,075	54, 70	396
397	W, Timken, 6652..	Y	W	2, R	11, 10	E, E	P, Savage	Detroit	11, 16	40x3-50x3½	L	Ross		I, Smith	187	36x5-40x5d	6,600	—, 76	397
398	W, Timken, 6652..	N	B	2, R	8, 9½	E, E	P	Detroit	11, 14	42x3-54x3½	L	Ross	58, 0	W, Bimel	168	36x5-40x10	6,600	50, 70	398
398a	W, Sheldon, W31	N		2, R		E, E	R, Own	Sheldon	12, 17	46x3-60x3½	L	Ross		W	160	36x5-36x5d		55, 75	398a
399	W, Timken			2, R		C, E	P, Parish	Tuthill			L	Ross		S, Clark	166	36x6-36x10			399
400	W, Timken, 1631B	N	W	2, R	10, 9	E, E		Mather	8, 13	48x3-60x3	L	Ross	58, 0	W, St. Marys	156	36x5-36x5d	7,200	60, 80	400
401	W, Timken, 6652.	Y	B	2, R		E, E	P	Spring Perch	11, 14	41½x3-56x3½	R	Gemmer	59, 10	W, Archibald	167½	36x5-40x5d	6,720		401
402	W, Timken, 6652.	N	W	2, R	9, 10	E, E	R, Own	Tuthill	9, 12	42x3-54x3½	L	Ross		W, Schwarz	176	36x5-40x5d	6,500	55, 75	402
403	I, Clark	N	B	2, R	11, 11	C, E	R	Mather	8, 12	44x3-56x3½	L	Lavine	64, 0	S, Clark	160	36x5-40x5d	6,800	50, 80	403
404	I, Russel, UI300..	Y	B	2, R	12½, 14½	C, E	P, Detroit	Mather	10, 14	44x2½-56x3½	L	Lavine	55, 0	I, Smith	164	36x5-40x5d	4,960	27, 90	404
405	W, Timken, 6652.	N	B	2, R		E, E	P, Parish & B.	Merrill	12, 15	44x2½-52x3½	L	Gemmer		I, Smith	164	36x5-36x5d	6,430	60, 82	405
406	W, Timken, 6660.	Y	B	2, R	9½, 8½	E, E	R, Own	Mather	10, 15	40x2½-54x3	L	Gemmer		W, Standard	168	36x5-36x10	6,850	60, 75	406
407	W, Timken, 6652.	N	B	2, R	14½, 10½	E, E	P, Parish & B.	Perfection	9, 13	44x3-54x3½	L	Ross	65, 0	I, Smith	190	36x5-40x10	7,000	60, 78	407
408	W, Own	Y	B	2, R	11½, 10½	E, E	R, Savage	Perfection	8, 15	44x3-56x3½	L	Ross	60, 0	W, Prudden	160	36x5-36x10	6,450	50, 80	408
409	W, Sheldon, W31	Y	B	2, R	11, 9	E, E	P, Savage	Iron City	11, 17	42x2½-56x3	L	Gemmer	59, 0	W, Jones	165	36x5-36x5d	5,750	60, 70	409
410	I, Clark, 3	Y	B	2, R	13½, 11½	C, E	P, Detroit	Detroit	8, 12	44x3-56x3½	L	Gemmer	56, 8	I, Smith	170	36x5-36x10	6,890	56, 78	410
411	W, Timken	Y	W	2, R		E, E	P	Mather	8, 15	46x3-56x3	R	Gemmer		S	170	36x5-36x5d	7,250	50, 90	411
412	W, Timken, 6652.	Y	W	2, R	9½, 9	E, E	P, Smith	Rowland	9, 15	42x3-56x4	L	Ross	60, 0	I, Smith	154	36x5-36x10	6,750	86, 70	412
413	I, Own	N	S	4, FR	15, 15	C, C	P, Parish & B.	Tuthill	6, 8	41½x3-41½x3	L	Wohlrab	60, 0	W, Prudden	130	36x8-36x8	3,800	40, 60	413
414	W, Timken			2, R			P								168	36x5-40x5d			414
415	W, Timken, 6652.	N	B	2, R	14½, 8½	E, E	P, Own	Mather	7, 13	44x3-60x3½	L	Ross	59, 8	W, Prudden	172	36x5-36x5d	7,300	53, 69	415
416	W, Timken, 6652.	N	B	2, R	10, 8	E, E	P	Mather	8, 12	44x3-56x3½	L	Gemmer	48, 10	I, Smith	156	36x5-36x5d	7,000	62, 75	416
417	W	N	B	2, R		E, E	P		9, 14	48x3-56x3½	L	Ross		W	128	36x5-40x5d	7,235		417
418	W	Y	B	2, R		E, E	P		9, 17	42x3-56x3½	L	Ross	58, 0	I	162	36x5-36x5d	7,550		418
419	W, Timken, 6652.	Y	W	2, R	9, 10½	E, E	P	Detroit	10, 14	44x3-58x4	L	Ross	46, 0	W, Prudden	162	36x5-40x5d	7,000	50, 20	419
420	W, Sheldon, W30..	Y	B	2, R	10, 8½	E, E	R	Sheldon	9, 15	44x3-60x4	R	Ross		W, Wayne	176	36x5-36x5d	6,000	40, 70	420
421	W, Timken, 6652..	N	B	2, R	12½, 10½	E, E	R, Own	Detroit	10, 12	44x3-54x4	L	Jacox	55, 0	Own	163	36x5-40x5d	7,540	56, 75	421
422	W, Standard	Y	B	2, R		E, E	P, Own	Perfection		46x3-62x3½	L	Ross	61, 0	I, Smith	156	36x5-40x5d	6,900	76, 91½	422
423	W, Timken, 6652.	Y	W	2, R	9, 8	E, E	R	Detroit	12, 16	45x2½-54x3½	L	Gemmer		I, Smith	144	36x5-36x5	6,825	25, 80	423
424	W, Sheldon			2, R		E, E	R, Own	Sheldon			L	Ross		W, Schwarz	160	36x5-36x5d			424
425	W, Timken			2, R				Tuthill				Ross		W	160	36x5-36x5d			425
426	W, Hindley			2, R		E, C	P, Savage	Perfection				Ross		W, Wayne	156	36x5-36x5d			426
427	W, Sheldon, W31..	N	B	2, R	11½, 8½	E, E	R	Sheldon	9, 14	40x3-50x3½	L	Wohlrab	54, 0	I, Smith	160	36x5-36x5d	7,150	66, 75	427
428	I, Own		B	2, R		E, E	P		10, 14	42½x3-57½x4	L	Own		W	162	36x5-40x10	7,500	50, 68	428
429	B, Own			4, FR		E, C	P, Castle	Spring Perch			R	Ross		W, Standard	150	36x7-36x7			429
430	I, Clark, 3D	Y	B	2, R	11½, 12	C, E	P	Perfection	11, 13	46x3-62x3½	L	Jacox	62, 6	S, Clark	165	36x5-36x10	6,400	50, 75	430
431	W, Sheldon, W31..	N	W	2, R	10, 9½	E, E	R	Sheldon	9, 14	42½x3-56x3½	L	Ross	36, 0	I, Smith	160	36x5-36x5d	8 000	—, 80	431
432	C, Own	N	B	2, R	11½, 15½	E, E	P	Perfection	11, 15	46½x3-54x3	L	Gemmer	56, 0	W	150	36x5-36x5d	9,285	50, 90	432

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7,000 (Kelly-Springfield—10,000 (Denby) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	7,000 Pounds—Con.																			
433	Kelly-Sp'gf'ld,K41 (int.)	.....	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	433
434	Kelly-Sp'gf'ld,K42(w'm)	.....	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	434
435	Kissel, Heavy Duty	4,475	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	435
436	Kleiber, C	4,900	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'r'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	436
437	K-Z	4,200	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	437
438	Larrabee, SL	.....	Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	438
439	Maccar, M-2	4,500	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L, 50	S, 4	Brown-L, 50	N	Spicer	439
440	Mack, AC	4,950	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	440
441	Mapleleaf, CC	.....	Hinkley, HA200	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	441
441a	Master, E (int)	4,640	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	441a
442	Master, A, (worm)	4,190	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	442
443	Menominee, G	.....	Continental, E4	4	4½x5½-32.4	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	443
444	National, IA	.....	Waukesha,NU4R	4	4½x5½-32.4	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 50	N	Spicer	444
445	Nelson & LeMoon, F3½	.....	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-Lipe	S, 4	Brown-L, 50		Thermoid	445
446	Noble, E70	.....	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 4	Fuller, G5			446
447	Northway, B3	4,250	Own	4	4x6-25.6	FS	Pierce	P	C, G & O	Y	Schebler	G	B	Y	M, Fuller	S, 4	Fuller, GU5	N	Spicer	447
447a	O. K., M	4,150	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T,R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller, H			447a
448	Old Reliable, C	4,000	Wisconsin, UU	4	4½x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	448
448a	Oneida, D9	4,345	Hinkl'y,HAA200	4	4½x5½-32.4	F	Own	P	C, Moline	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G5	N	Spicer	448a
448b	Orleans	.....		4	4½x6-32.4			P	T	N	Master	G	M, Eisemann	N	M	I, 4	Cotta			448b
449	Paige, 51-48	.....		4	4½x5½-32.4		Simplex	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L	N	Spicer	449
450	Parker, J20	4,400	Wisconsin, VAU	4	4½x6-32.4	F	Monarch	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Warner, T53	N	Kinsler-B	450
451	Republic, 20	.....	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, Own	N	Stromberg	G	M		M, Fuller	S, 4	Fuller, GU5	N	Hartford	451
452	Reynolds, 7A	4,800	Own	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Own		Thermoid	452
453	Royal	4,200	Wisconsin	4	4½x6-32.4		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			453
454	Sandow, M	3,995	Continental, E4	4	4½x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	454
455	Sanford, W35	4,050	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	455
456	Schacht	.....	Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 8	Own	N	M & E	456
457	Selden, 3½A	.....	Continental, E7	4	4½x5½-32.4	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	457
458	Service, 71	4,285	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	458
459	Service, 76	4,485	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	459
460	Signal, M	4,275	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	460
461	Standard, 66	.....	Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	461
462	Sterling	4,550	Own	4	4½x6-32.4	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	462
463	Stewart, 10	3,895	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU4	Y	Hartford	463
464	Sullivan, H	4,650	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Bush	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Spicer	464
465	Super, 70	.....	Wisconsin, UAU	4	4½x6-28.9	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	465
466	Tiffin, PW	4,175	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	S, 4	Fuller, G	Y	Peters	466
467	Titan	4,400	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, R	N	M & E	467
468	Tower, G	4,335	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Own	N		G	M	N	M, Fuller	S, 4	Fuller, G	N		468
469	Twin City	4,750	Wisconsin, JAU	4	5½x6-42.0	F	Pierce	P	C		Stromberg		K-W		M, Hele-Shaw	I, 3	Cotta			469
470	United, C	.....	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			470
471	Universal, L	.....	Buda	4	4½x5½-28.9		Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			471
472	U. S., J	3,950	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Long		Stromberg		M, Eisemann		C, Hartford	S, 4	Brown-L, 60			472
473	Victor, M	3,800	Continental, E4	4	4½x5½-32.4	FS		P	Own		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-Lipe			473
474	Walter, (Wis.), MO3	.....	Own	4	4½x6-30.6	FS	Own	P	T, Own		Zenith		M, Swiss		C, Own	S, 4	Own			474
475	Ward LaFrance, 4A	4,490		4	4½x6½-32.4	F		P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	475
476	Watson, 18	.....	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T,R'e-T'r'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	476
477	Wichita, O	4,000	Beaver, JB	4	4½x6-28.9	F	Duplex	P	C, E & M	Y	Stromberg	G	M	N	M	I, 4	Cotta	N	Thermoid	477
478	Wilcox, D	.....	Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		478
479	Wilson	3,950	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	479
480	Winther, 70	4,200	Wisconsin, TAU	4	4x6-25.6	F	N	P	T, Bremer	N	Master	G	M Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	480
	8,000 Pounds:																			
481	Bessemer, K2	4,285	Continental, E7	4	4½x5½-32.4	S	Pierce	P	C, Standard	Y	Rayfield	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	481
482	Gabriel, F	4,300	Buda, YU	4	4½x6-32.4	F	Duplex	P	T, G & O		Rayfield		M, Bosch		P, Borg & B	S, 4	Brown-L, 60			482
483	Highway-Knight, A	.....	Moline-K., W	4	4x6-25.6	F		P	T, Own	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Own	N	Thermoid	483
484	Jumbo, 40	.....	Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	484
485	Kimball, E	4,975	Wisconsin, JU	4	5 1-10x5½-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	485
486	Moreland, 19G	4,875	Cont'l, Class B	4	4½x6-36.0	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	486
487	Noble, MW4	3,750	Continental	4	4½x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Fuller			487
488	Packard, 4E	4,550	Own	4	4½x5½-32.4	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp.	488
489	Riker, BB	.....	Own	4	4½x6-28.9	S	Own	P	T	N	Ball & Ball	G	M, Berling	N	C, Own	S, 4	Own	N	Own	489
489a	Rowe, HW	4,350	Wisconsin	4	4½x6-32.4	F	Simplex	P	Fedders		Zenith		M, Bosch			S, 4	Brown-L		Spicer	489a
490	Union, H	3,975	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	490
	10,000 Pounds:																			
491	Acason, M	5,850	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	C, National	Y	Stromberg	G	M, Eisemann	N	M, Detlaff, H8	I, 4	Cotta, S	Y	Blood	491
491a	Acme, E	5,150	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, T	N	Blood	491a
491b	Atterbury, 8E	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Zenith	G	B, M	Y	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	491b
492	Autoborse, 10	2,000	Continental	4	3½x5-22.5		N	P	C, Eureka		Stromberg		M, Eisemann	N	P, Borg & B	S, 3	Detroit			492
493	Available, H5	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer-Bld	493
494	A & B, 5T	.....	Own	4	5½x3½-42.8		N	P	T, Bush		Schebler		M, Bosch		M, Brown-L	S, 4	Brown-Lipe			494
495	Bollstrom, A	.....	Own	4	4½x5½-28.9			P	Own		Stromberg		M, Bosch		M	I, 4	Own		Own	495
496	Brookway, T	5,000	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	496
496a	Chicago, D5		Hercules	4	4½x5½-32.4	F	Simplex	P	T	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-Lipe	N	Peters	496a
497	Clydesdale, 120B	5,500	Continental, B2	4	4½x6-36.1	F	Own	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	497
498	Couple-Gear, AC	6,700	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, E'sm'nn	N	†	†, 6	Own		Own	498
499	Day-Elder, E	4,600	Buda, YU	4	4½x6-32.4	F	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 60	N	Hartford	499
500	Denby, 210	4,900	Continental, E7	4	4½x5½-32.4	F	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Own	S, 4	Warner, T53	N	Peters	500

† Electric Transmission

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TRUCK SPECIFICATIONS

7,000 (Kelly-Springfield)—10,000 (Denby)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
433	I, Clark	N	B	2, R	9½, 13½	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	433
434	W, Standard	N	B	2, R	9½, 11	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	434
435	W, Sheldon, W30	Y	W	2, R	10¾, 8½	E, E	P, Smith	½, ½	Mather	11, 12	44x3-62x3½	L	Ross	50, 0	I, Smith	168	36x5-36x5d	7,200	57½, 74½	435
436	W, Timken, 6652	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 14	44x3-52x3	R	Ross		W, W't'rh'se	163	36x5-36x10	7,200	50, 75	436
437	W, Timken, 6652	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	8, 12	42x3-52x3½	L	Lavine	66, 4	S. Standard	156	36x5-40x5d	6,500		437
438	W, Sheldon, W30	Y	B	2, R	14, 9	E, E	P, Parish & B	½, ½	Merrill	10, 15	44x3-56x3½	L	Ross		W, Hoopes	160	36x5-36x5d	6,850	44, 88	438
439	W, Timken, 6652	N	B	2, R	9 5/16, 8¾	E, E	P, Parish	½, ½	Merrill	9, 14	42x2½-56x3½	L	Ross		S, Dayton	174	36x5-36x5d	6,175	—, 70	439
440	C, Own	N	B	2, R	11½, 10¾	C, E	P, Own	½, ½	Merrill	9, 10	46x3½-52x4	L	Own	52, 6	W, Own	Opt.	36x5-36x5d	8,070	46, 66	440
441	W, Sheldon, W31	Y	B	2, R	10, 8½	E, E	R	½, ½	Sheldon	—, 15	46x3-56x4	L	Ross		W, Hayes	160	36x5-36x5d	7,000	50, 70	441
441a	I, Walker	Y	BS	2, R		C, E	P, Parish & B	½, ½	Detroit	12, 15	44x3-58x4	L	Ross	48, 0	S	158	36x5-40x5d	7,000	58, 72	441a
442	W, Timken, 6652	Y	B	2, R	11½, 10½	E, E	P, Parish & B	½, ½	Detroit	12, 15	44x3-58x4	L	Ross	48, 0	S	158	36x5-40x5d	7,000	58, 72	442
443	W, Timken, 6652	N	B	2, R		E, E	R, Own	½, ½	Tuthill	11, 11	44x2½-54x3½	L	Ross		W, Standard	160	36x5-36x5d	6,650		443
444	W, Timken, 6560	N	W	2, R	9½, 10¾	E, E	R	½, ½	Mather	9, 17	46x3-58x3½	L	Ross	54, 0	W, Hayes	158	36x5-40x5d	7,000		444
445	W, Timken, 6652	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x5-36x5d			445
446	W, Sheldon, W30			2, R		E, E	P, Parish & B	½, ½	Tuthill				Lavine		W, Bimel	166	36x5-36x5d			446
447	W, Sheldon, W30	Y	B	2, R	10, 10½	E, E	P	½, ½	Perfection	10, 12	44x3-56x4	L	Ross	50, 0	S, Clark	160	36x5-40x5d	7,300	51½, 73	447
447a	W, Wisc., 900			2, R		E, E	P, Hydraulic	½, ½	Liggett				Ross		W, Bimel	154	36x5-36x5d			447a
448	W, Sheldon, W30	Y	W	2, R	11½, 8½	E, E	R	½, ½	Sheldon	10, 16	48x3-60x4	R	Ross		W, St. Marys	160	36x5-36x5d	6,850	—, 77	448
448a	W, Wisc., 900E	N	B	2, R	11, 8½	E, E	P, Detroit	½, ½	Mather	11, 12	44x3-56x3½	L			S	170	36x5-36x10	7,250	60, 85	448a
448b	W	N		2, R		E, E	R	½, ½			44x3-56x3½		Ross		I, Smith	166	36x4½-36x4d			448b
449	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	9, 14	46x3-58x4	L	Jacox		S, Dayton	160	36x5-36x5d	7,000	60, 75	449
450	W, Own	N	B	2, R	14, 11	C, E	P, Smith	½, ½	Tuthill	8, 16	51x3-60x3	L	Ross	64, 0	W, Bimel	160	36x5-40x5d	6,300	55, 76½	450
451	I, Torbensen, E1	Y	W, Powrlok	2, R		C, E	P, Detroit	½, ½	Mather	8, 13	44½x3-52½x4	L	Jacox		I, Smith	165	36x5-36x10	6,400		451
452	W, Own	Y	B	2, R	9½, 9½	E, E	R, Standard	½, ½	Own		44x3-56x3½	L	Own		I, Smith	156	36x5-36x5			452
453	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	158	36x5-38x5d			453
454	W, Timken, 6652	N	W	2, R	8½, 8½	E, E	P, Savage	½, ½	Garden City	9, 17	44x3-56x3½	R	Ross	40, 0	W, Standard	175	36x5 36x5d	6,650	20, 70	454
455	W, Sheldon, W30	Y	B	2, R	10½, 8½	E, E	P	½, ½	Perfection	9, 13	46x3-54x3½	L	Ross	50, 0	W, Hoopes	174	36x5-36x5d	6,900	76, 87	455
456	W, Own	N	B	2, R	10½, 9	C, E	R, Own	½, ½	National	9, 15	35x2½-50x3	L	Own		W, St. Marys	168	36x5-36x5d	6,500	80, 80	456
457	W, Timken, 6652	N	B	2, R	9½, 8 15/16	E, E	P, Parish & B	½, ½	Perfection	10, 14	42x3-56x3½	R	Gemmer	62, 0	W	162	36x5-36x10	7,200	56, 78	457
458	W, Timken, 6652	N	B	2, R	9½, 7½	E, E	P, Own	½, ½	Mather	11, 13	46x3-60x3½	L	Ross	52, 0	S	171	36x5-36x5d	6,950	—, 72	458
459	W, Timken, 6652	N	B	2, R	9½, 7½	E, E	P, Own	½, ½	Mather	11, 13	46x3-60x3½	L	Ross	52, 0	S	171	36x5-36x5d	7,280	—, 72	459
460	W, Timken, 6652	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	11, 16	44x3-56x3½	L	Ross	61, 0	W, Hayes	168	36x5-40x10	7,070	—, 84	460
461	W, Timken, 6660	N	B	2, R	9½, 8½	E, E	P, Parish & B	½, ½	Perfection	10, 15	45½x3-52½x3½	L	Gemmer		W	160	36x5-36x5d	6,480	57, 70	461
462	W, Timken, 6652	N	W	2, R	11½, 10½	E, E	P, W	½c, ½c	Mather	8, 10	48x3-60x3½	L	Ross	53, 6	W, Prudden	162	36x5-40x5d	8,300	53, 92	462
463	I, Clark, 3D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	10, 14	41x2½-54x4	L	Ross	52, 0	S, Clark	165	36x5-36x5d	6,080	64½, 80½	463
464	W, Timken, 6652	N	B	2, R	9½, 8½	E, E	P	½, ½	Sheldon	9, 13	46x3-56x3½	L	Ross	58, 6	W, Wayne	170	36x5-36x5d	6,000	50, 68	464
465	W, Sheldon, W30	Y	B	2, R	12, 12½	E, E	P	½, ½	Sheldon	10, 11	44x3-58x4	L	Ross	50, 0	S	164	36x5-40x5d	7,300		465
466	W, Sheldon, W31	N	B	2, R	10, 9	E, E	R	½, ½	Kalamazoo	9, 16	42x3-52x3½	L	Ross	62, 0	I, Smith	160	36x5-40x5d	6,950	40, 60	466
467	I, Clark, 3	N	B	2, R	12, 16	E, C	P, Parish & B	½, ½	Sheldon	9, 11	48x3-60x3½	L	Lavine	50, 0	S, Dayton	156	36x5-40x5d	7,350	57, 80	467
468	W, Timken	N	B	2, R	10½, 10½	E, E	P	½, ½	Detroit		44x3-56x3½	L	Ross		W	165	36x5-36x5d	6,800	—, 70	468
469	I			4, FR				½, ½					Ross			140	36x6-36x6			469
470	I, Clark, 3D			2, R		E, C	P, Detroit	½, ½	Detroit				Lavine		S	157	36x5-36x5d			470
471	C, Own			2, R		E, E	R	½, ½	Kalamazoo				Lavine		W	156	36x5-36x5d			471
472	W, Sheldon, W30			2, R		E, E	R, Own	½, ½	Sheldon				Lavine		W, Schwars	162	36x5-40x5d			472
473	W, Timken			2, R				½, ½					Gemmer			176	36x6-36x5d			473
474	E, Own			4, FR		C, C	R, Own	½, ½					Own		S, Own	108	40x4d-40x4d			474
475	W, Timken, 6652	N	W	2, R	10½, 8 5/16	E, E	P, Detroit	½, ½			46x3-60x3½	L	Ross		I, Smith	162	36x5-36x5d	7,750	—, 85	475
476	W, Empire, 12	Y	B	2, R	12½, 64	E, E	P, Parish	½, ½	Sheldon	11, 12	44x3-56x3½	L	Gemmer		W, Crane	168	36x5-36x10	6,950		476
477	W, Sheldon, W30	Y	W	2, R	10, 8½	E, E	P, Own	½, ½	Detroit			R	Ross		S	165	36x5-36x5d	7,200		477
478	W, Sheldon, W30	Y	B	2, R		E, E	P	½, ½	Own	10, 12	40x2½-60x4	L	Own		I, Smith	154	36x5-36x5d	6,400	25, 75	478
479	W, Timken, 6652	Y	B	2, R	9½, 8½	E, E	R, Own	½, ½	Perfection	11, 17	46x3-60x3½	L	Ross		W	160	36x5-36x5d	6,800	60, 80	479
480	I, Clark, 3D	Y	B	2, R	11½, 12	C, E	R, Own	½, ½	Mather	8, 10	46x3-56x4	R	Ross	62, 0	S, Clark	150	36x5-36x5d	6,400	45, 80	480
481	I, Torbensen, E	N	B	2, R	11, 11	E, C	P	½, ½	Perfection	10, 12	44x3-56x3½	L	Ross		W, Schwars	175	36x5-36x10	6,700	54, 69	481
482	W, Timken, 6652			2, R		E, E	P, Parish	½, ½	Merrill				Gemmer		I, Smith	180	36x5-40x5d			482
483	W	Y		2, R	11, 10	E, E	P	½, ½	Sheldon		46x3-56x3½	L	Ross		W, Schwars	159	36x5-36x6d	7,200		483
484	I, Clark, 3D	Y	B	2, R	13½, 16½	C, E	P	½, ½	Perfection	10, 13	46x3-62x3½	L	Jacox	62, 6	S, Clark	165	38x7p-44x10p	6,800	50, 75	484
485	W, Sheldon, W30	Y	B	2, R		E, E	P	½, ½	U. S	12, 16	45½x3-53½x3½	L	Ross	39, 6	I, Smith		36x5-40x10		50, 80	485
486	W, Timken, 6652	N	W	2, R	9½, 11½	E, E	P	½, ½	U. S	9,½12	50x3-50x4	L	Ross		I, Smith	162	36x5-40x5	7,800	55, 67	486
487	W, Sheldon			2, R		E, E	R	½, ½	Kalamazoo				Lavine		S	168	36x5-36x5d			487
488	W, Own	N	S	2, R	10½, 10½	C, E	R, Own	½, ½		11, 14	42½x3-46x3	L	Own	56, 0	W	156	36x5-40x5d	7,460	55, 75	488
489	W, Own	N	B	2, R	12, 9	C, E	P	½, ½		9, 17	42x3-54x3	R	Ross	55, 0	S	150	36x5-36x6d	7,200	63, 77	489
489a	W, Sheldon			2, R		E, E		½, ½	Sheldon				Ross		W, Hoopes	156	36x5-36x6d	6,370	—, 75	489a
490	I, Torbensen, E	Y	B	2, R	13, 12	C, C	P, Own	½, ½	Mather	8, 15	42x3-56x4	L	Ross		S, Dayton	171	36x6-36x10		50, 70	490
491	W, Timken, 6752	Y	W	2, R	11, 10	E, E	P, Savage	½, ½	Detroit	12, 18	40x3-50x4	L	Ross		I, Smith	187	36x6-40x6d	8,350	—, 77	491
491a	W, Timken, 6760	N	B	2, R	9, 9½	E, E	P	½, ½	Detroit	11, 17	44x3-56x4	L	Ross	64, 0	I, Smith	180	36x6-40x12	8,800	50, 70	491a
491b	W, Timken, 6752	N	B	2, R		E, E	P	½, ½	Spring Perch	10, 12	41½x3-54x4	L	Gemmer	59, 10	S, Dayton	167½	36x5-40x6	9,350		491b
492	I, Own			1, F		C, E	R, Own		Champion				Own		W, Bimel	43	34x10			492
493	W, Timken, 6752	N	W	2, R	9, 10	E, E	R, Own	½, ½	Tuthill	9, 15	44x3-60x4	L	Ross		I, Smith	190	36x6-40x12	9,500	55, 75	493
494	I, Own			2, R		C, C	R, Own	½, ½	Perfection				Gemmer		W	144	48x3½d-48x5d			494
495	I, Own			2, R		C, C	R, Own					L	Gemmer		S, Clark	144	36x6-36x6			495
496	W, Timken, 6752	N	B	2, R		E, E	P, Parish & B	½, ½	Merrill	12, 17	44x3-58x4	L	Gemmer		I, Smith	174	36x6-40x6d	9,075	60, 90	496
496a	W, Timken, 6752	Y	B	2, R	9, 10	E, E	R	½, ½			44x3-56x4	L	Gemmer	42, 0	Optional	167	36x6-40x12	8,110	56, 80	496a
497	W, Timken, 6752	N	B	2, R	13½, 9½	E, E	P, Parish & B	½, ½	Perfection	11, 18	44x3-56x4	L	Ross		I, Smith	204	36x6-40x12	9,100	65, 76	497
498	B, Own	N		4, FR	11, 11	E, E	R	½, ½	Tuthill	12, 12	43x3-43x3	R	Own	36, 0	S, Own	144	36x5-36x5	11,000	50, 50	498
499	W, Sheldon, W51	Y	B	2, R	10½, 10½	E, E	P, Savage	½, ½	Iron City	12, 13	48x3-60x4	L	Gemmer	54, 0	I, Smith	150	36x5-40x6d	8,250	60, 70	499
500	I, Clark, W100	Y	B	2, R	13½, 13½	E, E	P, Detroit	½, ½	Detroit	10, 18	42x3-54x4	L	Gemmer	62, 0	S, Russell	170	36x6-40x12	8,590	58, 80	500

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10,000 (Diamond T)—15,000 INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	10,000 Pounds—Con.																			
501	Diamond T, S	5,900	Class B, U. S	4	4½x6-36.1	FS	Pierce	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	....	Spicer	501
501a	Diamond T, EL	5,675		4	4½x5½-32.4	FS		P	T, G & O	N	Stromberg	G	M, Bosch	N	M	S, 4		....	Spicer	501a
502	Fageol	5,300	Waukesha, DU	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	502
503	Federal, XC	4,550	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, MoCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner, WXD	N	Spicer	503
504	Garford, 68	5,000		4	4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		504
505	Gary, M	5,150	Buda, BTU	4	5x6½-40.0	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	505
506	GMC, 101A	4,775	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	506
507	Gramm-Bernstein, 50	5,875	Continental, B2	4	4½x6-36.1	F		P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	507
508	Hall (chain)	4,850	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	508
509	Hall (worm)	4,850	Continental, E4	4	4½x5½-32.4	FS	Simplex	T	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	509
510	Harvey, WKA	5,200	Buda	4	4½x6-32.4	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe			510
511	Highway-Knight, B		Moline-K., W	4	4x6-25.6	F		P	T, Own	N	Zenith	G	M, Eisemann	Y	M, Brown-L	S, 4	Own	N	Thermoid	511
512	Hurlburt, D	5,250	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60			512
513	Indiana, 50	5,075	Waukesha, PU7	4	4½x6½-36.1	F	Waukesha	P	T, Long	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	513
514	Kelly-Springfield, K50	5,150	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	514
515	Kimball, F	5,975	Wisconsin, JAU	4	5½x6-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	515
516	Kissel, Goliath	5,085	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	516
517	Kleiber, D	5,600	Continental, T	4	5½x5½-44.1	S	Pierce	P	T, R'e-T'rn'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	517
517a	Koehler, MT	3,450	Hercules	4	4 x5½-25.6						Zenith	G	M, Eisemann		P	S, 3				517a
518	Larrabee, T		Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	518
519	Mack, AC	5,500	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	519
520	Mapleleaf, DD		Hinkley, HA1600	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, H	N	Blood	520
520a	Master, F (int)	5,540	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	520a
521	Master, B (worm)	5,290	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	521
522	Menominee, J		Wisconsin, A	4	4½x5½-36.1	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	522
523	Moreland, 19J	5,350	Cont'l, Class B	4	4½x6-36.1	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	523
524	National, JA		Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 60	N	Spicer	524
525	Nelson & LeMoon, F5		Continental, B2	4	4½x6-36.1	F	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Thermoid	525
526	Old Reliable, D	5,000	Wisconsin, J	4	5 1-10x5½-42.0	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, SD60	Y	Spicer	526
526a	Oneida, E9	5,460	Hinkley, HA800	4	4½x5½-32.4	F	Own	P	C, Modine	Y	Stromberg	G	M, Bosch	N	M, Fuller	I, 4	Cotta, S	N	Spicer	526a
527	Packard, 5E	5,450	Own	4	5x5½-40.0	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	527
528	Parker, M20	5,500	Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Warner, T53-1	N	Kinsler-B	528
530	Pierce-Arrow, R9	5,500	Own	4	4½x6-38.0	F	Own	P	T, Own	N	Stromberg	G	M, Dixie	N	C, Own	S, 3	Own	Y	Own	530
531	Reynolds, 10A	5,800	Own	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Own		Thermoid	531
532	Rowe, FW	5,390	Wisconsin, AU	4	4½x6-32.4	F	Simplex	P	C, Fedders		Zenith		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Spicer	532
533	Royal	5,000	Wisconsin	4	4½x5½-36.1		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			533
534	Sandow, L	4,775	Continental, E4	4	4½x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	534
535	Sanford, W50	4,950	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	535
536	Schacht		Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 8	Own	N	M & E	536
537	Schwarts, D	4,500	Buda, YTU	4	4½x6-32.4	F	Simplex	P	C, Fedders	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	537
538	Selden, 5A		Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Detlaff	S, 4	Brown-L, 60	Y	Spicer	538
539	Service, 101	5,275	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	539
540	Signal, R	5,300	Continental, B2	4	4½x6-361	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	540
541	Standard, 86		Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	541
542	Sterling (chain)	5,600	Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	542
543	Sterling, (worm)	5,350	Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	543
544	Super, 100		Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Hilliard	S, 4	Savage, SD60	Y	Spicer	544
545	Tiffin, TW	5,250	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	Y	Peters	545
546	Titan	5,400	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	N	M & E	546
547	United, V		Buda, YU	4	4½x6-32.4	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60			547
548	U. S., K	4,850	Waukesha, P	4	4½x6½-36.1	F	Waukesha	P	T, Long		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-L, 60			548
549	Walter, (N. Y.), S	5,500	Waukesha, DU	4	4½x6½-32.4	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Warner, T53		M & E	549
550	Ward LaFrance, 5A	5,490		4	5x6½-40.0	F		P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	550
551	White, 45	5,000	Own	4	4½x5½-28.9	F	Own	P	T, Own	N	Own	G	M		P, Own	S, 4	Own	N	Own	551
551a	Wichita, S	5,000	Beaver, JA	4	4½x6-32.4	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	S, -	Own	N	Thermoid	551a
552	Wilcox, W		Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		552
553	Wilson	4,800	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	553
554	Winther, 109	5,250	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	554
	11,000 Pounds:																			
554a	Aetna	5,375	Wisc., RBU	4	5 x6-40.0	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, T	N	Spicer	554a
555	Maccar, G-1	5,500	Wisc., RBU	4	5x6-40 0	F	Pierce	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Brown-L, 60	S, 4	Brown-L, 60	N	Spicer	555
	12,000 Pounds:																			
556	Doane	5,350	Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, Own		Master		M, Bosch		M, Brown-L	S, 3				556
557	Kelly-Springfield, K60	5,500	Own	4	4½x-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	557
558	Packard, 6E	5,700	Own	4	5x5½-40.0	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	558
559	Royal	5,400	Wisconsin	4	5½x6-42.0		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			559
560	Tiffin, UW	5,450	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	Y	Peters	560
561	United, T		Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Muncie, 63			561
	13,000 Pounds																			
563	Mack, AC	$5,750	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	563
	14,000 Pounds:																			
563a	Available, H7	6,000	Waukesha	4	5x6½-40.0	FS	Waukesha	P	T, Chicago	Y	Stromberg	G	BM, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	563a
564	Couple-Gear, LDC	7,350	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, E'sm'nn	N	†	† 6	Own		Own	564
565	Larrabee, W		Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	565
566	Old Reliable, K	6,000	Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, 6495	Y	Hartford	566
567	Royal	6,500	Wisconsin	4	5½x7-44.2		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			567
568	Winther, 140	5,900	Wisconsin, RBU	4	5 x6-40.0	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	568
	15,000 Pounds:																			
569	Mack, AC	6,000	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	569
570	Sterling	6,000	Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	570

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TRUCK SPECIFICATIONS

10,000 (Diamond T)—15,00

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
501	W. Timken	Y	W	2, R		E, E	P	½, ½	Mather	10, 14	46x3-56x4	L	Gemmer		I. Smith	180	36x6-40x6d	8,790	50, 90	501
501a	W. Timken	Y	W	2, R		E, E	P	½, ½	Mather	10, 14	46x3-56x4	L	Gemmer		S.	180	36x6-40x6d	8,790	50,90	501a
502	W. Timken, 6752	N	B	2, R	14½, 10½	E, E	P, Own	½, ½	Mather	9, 16	46x3-60x4	L	Ross	59, 8	W. Prudden	172	36x6-40x6d	8,300	56, 73	502
503	W. Timken, 6752	N	B	2, R	9, 10	E, E	R	½, ½	Mather	8, 16	44x3-56x3½	L	Gemmer	57, 0	I. Smith	156	36x6-40x6d	8,100	65, 78	503
504	C	N	B	2, R		C, E	P	½, ½		10, 17	48x3-50x3	R	Ross		I. Smith	128	36x6-40x6d	8,870		504
505	W. Timken, 6752	Y	W	2, R	9, 10½	E, E	P	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	52, 0	S. Dayton	182	36x6-40x6d	8,500	50, 20	505
506	W. Timken, 6752	N	B	2, R	11½, 10	E, E	R, Own	½, ½	Detroit	10, 16	44x3-54x4	L	Jacox	55, 0	Own	163	36x6-40x6d	8,485	56, 75	506
507	W. Standard	Y	B	2, R	12½, 10½	E, E	P, Own	½, ½	Perfection	10, 16	48x3½-64x4	L	Ross	62, 0	I. Smith	168	36x6-40x6d	9,500	76½, 92½	507
508	C. Timken, 4800	Y	W	2, R	8, 16	E, E	R	½, ½	Detroit	12 18	45x3-52x3½	L	Gemmer		I. Smith	144	36x5-40x6	7,530	25, 80	508
509	W. Timken, 6752	Y	W	2, R	8, 9	E, E	R	½, ½	Perfection	12, 18	45x3-52x4	L	Gemmer		I. Smith	144	36x5-40x6	8,400	25, 80	509
510	W. Sheldon			2, R		E, E	R, Own	½, ½	Sheldon				Ross		I. Smith	160	36x6-40x6d			510
511	W	Y		, R	11, 10½	E, E	P	½, ½	Sheldon		46x3-58x4	L	Ross		W, Schwarz	159	36x5-40x6d	8,400		511
512	W, Hindley			2, R		E, C	P, Savage	½, ½	Perfection				Ross		W, Wayne	170	36x5-40x6d			512
513	W, Sheldon, W50	N	B	2, R	9½, 10½	E, E	R, Illinois	F, ½	Sheldon	10, 15	40x3-50x4	L	Wohlrab	56, 0	I. Smith	167	36x5-40x6d	8,730	66½, 78½	513
514	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	11, 14	46½x3-56½x3½	L	Gemmer	56, 0	W	150	36x6-40x6d	9,175	50, 90	514
515	W, Sheldon, W50	Y	B	2, R		E, E	P	½, ½	U. S.	12, 16	45½x3-53½x4	L	Ross	39, 6	I. Smith		36x6-40x12		50, 80	515
516	W, Sheldon, W30	Y	W	2, R	10, 8	E, E	P, Smith	½, ½	Mather	11, 13	44x3-62x3½	L	Ross	50. 0	I. Smith	180	36x6-36x6d	7,900	57½, 74½	516
517	W, Timken, 6752	N	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	11, 15	50x3-52x4	R	Ross		I. Smith	180	36x6-40x6d	9,200	50, 75	517
517a	W. Timken	Y		2, R				½, ½								142	36x4-36x7			517a
518	W. Sheldon, W50	Y	B	2, R	14, 10½	E, E	P, Savage	½, ½	Merrill	12, 17	44x3-58x4	L	Ross		I. Smith	178	36x6-40x6d	8,500	40, 84	518
519	C, Own	N	B	2, R	11½, 10½	C, E	P, Own	½, ½	Merrill	9, 13	46x3½-52x4	L	Own	52, 6	W, Own	Opt.	36x6-40x6d	8,650	48, 90	519
520	W. Sheldon, W51	Y	B	2, R	10½, 10½	E, E	R	½, ½	Sheldon	–, 13	46x3-56x4	L	Ross		I. Smith	160	36x6-40x6d	8,600	60, 70	520
520a	I, Walker	Y	BS	2, R		E, E	P, Parish & B	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	50, 0	I. Smith	170	36x6-40x6d	8,000	58, 72	520a
521	W, Timken, 6752	Y	B	2, R	11, 11½	E, E	P, Parish & B	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	50, 0	I. Smith	170	36x6-40x6d	8,000	58, 72	521
522	W, Timken, 6752	N	B	2, R		E, E	R, Own	½, ½	Tuthill	9, 12	44x3-54x4	L	Ross		W, Standard	160	36x6-40x6d	8,500		522
523	W, Timken, 6752	N	W	2, R	9, 10	E, E	P	½, ½	U. S.	12, 14			Ross		I. Smith	162	36x6-40x6	9,400	55, 67	523
524	W Timken, 6760	N	W	2, R	9, 10½	E, E	R	½, ½	Mather	11, 19	44x3½-60x4	L	Ross	56, 0	W, Hayes	170	36x6-40x6d	8,650		524
525	W, Timken, 6752	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x6-40x6d			525
526	W. Sheldon, W50	Y	W	2, R	10½, 10½	E, E	R	½, ½	Sheldon	10, 16	48x3-60x4	R	Ross		W, St. Marys	168	36x6-40x6d	8,400	—, 70	526
526a	W. Timken, 6760	N	B	2, R	11½, 10½	E, E	P, Detroit	½, ½	Mather	11, 12	44x3-60x4	L			S	180	36x6-40x12	9,000	60, 85	526a
527	W. Own	N	S	2, R	11½, 9½	C, E	R, Own	½, ½		12, 13	42½x3-54x3½	L	Ross	62, 0	S.	156	36x6-40x6d	8,650	57, 76	527
528	W. Own	N	B	2, R	14½, 11	C, E	P, Smith	½, ½	Tuthill	8, 14	44x3-60x4	L	Ross	60, 0	I. Smith	160	36x6-40x6d	8,000	58½, 78	528
530	W, Own	N	W	2, R	12, 10½	C, E	P, Own	½, ½	Spring Perch	11, 16	33x2½-48x3	R	Own	50, 6	W, Own	168	36x5-40x6d	8,450	63 75	530
531	W, Own	Y	B	2, R	9½, 10½	E, E	R, Standard	½, ½	Own		44x3-56x4	L	Own		I. Smith	176	36x6-40x6			531
532	W. Sheldon, W50			2, R		E, E	R, Own	½, ½	Sheldon				Ross		W, Hoopes	169	36x6-40x6d	8,240	—, 66	532
533	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x6-40x6d			533
534	W Timken, 6752	N	W	2, R	8½, 8	E, E	P, Savage	½, ½	Garden City	10, 20	44x3-56x3½	R	Ross	41, 0	W, Standard	175	36x6-40x6d	7,950	20, 70	534
535	W, Sheldon, W50	Y	B	2, R	10½, 10½	E, E	P	½, ½	Perfection	10, 13	46x3-54x3½	L	Ross	58, 0	I. Smith	174	36x5-40x6d	7,600	80, 87	535
536	W, Own	N	B	2, R	10, 9	C, E	R, Own	½, ½	National	9, 17	35x3-50x3	L	Own		W, St. Marys	168	36x5-40x6d	8,500	80, 80	536
537	I. Torbensen, EI	Y	B	2, R	9½, 11½	E, C	P, Parish	½, ½	Rowland	10, 15	40x3-56x4	L	Ross		I. Smith	170	36x6-36x10	7,600		537
538	W, Timken, 6752	N	B	2, R	–, 10½	E, E	P, Parish & B	½, ½	Perfection	11, 15	46x3½-60x4	L	Gemmer	62, 0	S.	164	36x6-40x12	9,700	57, 76	538
539	W. Timken, 6752	N	B	2, R	9, 10½	E, E	P, Own	½, ½	Mather	12, 15	46x3-60x3½	L	Ross	56, 0	S.	171½	36x6-40x6d	8,760	—, 75	539
540	W, Timken 6752	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	11, 18	44x3-56x5	L	Ross	71, 0	I. Smith	180	36x6-40x12	9,510	—, 84	540
541	W, Timken, 6760	N	B	2, R	9, 10	E, E	P, Parish & B	½, ½	Perfection		45½x3-52½x4	L	Gemmer		S, Dayton	160	36x6-40x6d	8,100	64, 75	541
542	C Own	N	S	2, R	11½, —	E, C	P	¼c, ¼c	Mather	10, 12	48x3-60x4	L	Ross	47, 9	I, Smith	174	36x6-40x6d	10,000	54, 91	542
543	W, Timken, 6752	N	W	2, R	11½, 10½	E, E	P	¼c, ¼c	Mather	10, 12	48x3-60x4	L	Ross	47, 2	W, Prudden	168	36x6-40x6d	9,700	53, 92	543
544	W. Sheldon, W51	N	B	2, R	11½, 12	E, E	P	½, ½	Sheldon	11, 13	44x3-58x4	L	Ross	50, 0	S.	164	36x5-40x6d	8,500		544
545	W. Sheldon, W51	N	B	2, R	9, 10	E, E	R	½, ½	Kalamazoo	10 16	42x3½-53x4	L	Ross	69, 0	I, Smith	168	36x6-40x6d	8,000	40, 60	545
546	I, Clark, 5	N	B	2, R	12, 16	E, C	P, Parish & B	½, ½	Sheldon	9, 13	48x3-60x3½	L	Lavine	50, 0	S, Clark	156	36x5-40x6d	9,100	57, 80	546
547	I, Clark, 5D			2, R		E, C	P, Detroit	½, ½	Detroit				Ross		S.	160	36x5-40x6d			547
548	W. Sheldon, W50			2, R		E, E	R, Own	½, ½	Sheldon				Lavine		S, Dayton	168	36x5-40x6d			548
549	I. Own	Y	W	2, R	14, 14	C, C	P	½, ½	Perfection		48x3-52x5	L	Ross	48, 0	S, Dayton	168	36x6-40x6d	8,000	50, 80	549
550	W. Timken, 6752	N	W	2, R	9½, 10⅝	E, E	P, Detroit	½, ½			50x3-60x4	L	Ross		I, Smith	190	36x5-40x6d	9,300	—, 85	550
551	I, Own	N	BS	2, R	10½, 10½	C, E	R	½, ½				L	Own	61, 0	S.	174	36x6-40x6d	7,925	54, 70	551
551a	I.	Y	BS	2, R	10½, 9	E, E	P, Own	½, ½	Detroit			R	Ross		S.	165	36x6-40x6d	9,200		551a
552	W, Sheldon, W50	N	B	2, R		E, E	P	½, ½	Sheldon	12, 13	48x3½-62x5	L	Own		I, Smith	162	36x5-40x6d	9,100	25, 75	552
553	W, Timken, 6752	Y	B	2, R	9, 10½	E, E	R, Own	½, ½	Perfection	11, 17	46x3-60x4	L	Ross		W	160	36x6-40x6d	7,500	60, 80	553
554	I, Clark, 5D	Y	B	2, R	11, 14	E, E	R, Own	½, ½	Mather	8, 12	46x3-56x4	R	Ross	68, 0	S, Clark	162	36x5-40x6d	8,600	45, 80	554
554a	W. Sheldon, W51	N		2, R		E, E	R, Own	½, ½	Sheldon	12, 18	46x3½-60x4	L	Ross		W	168	36x6-40x6d		55, 75	554a
555	W, Timken, 6752	N	B	2, R	9, 10½	E, E	P, Parish	½, ½	Merrill	11, 15	42x2½-56x4	L	Ross		S, Dayton	186	36x5-40x6d	8,750	—, 70	555
556	C, Own			2, R			R	½, ½					Lavine		S, West	178	36x6-40x6d			556
557	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	12, 15	48½x3-56½x3½	L	Gemmer	56, 0	W	150	36x6-40x7d	9,500	50, 90	557
558	W, Own	N	S	2, R	11½, 9½	C, E	R	½, ½		12, 14	42½x3-54x3½	L	Ross	62, 0	S.	156	36x6-40x7d	8,925	58, 78	558
559	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x6-40x6d			559
560	W. Sheldon, W51	N	B	2, R	9, 10	E, E	R	½, ½	Kalamazoo	10, 18	42x3½-52x4	L	Ross	34, 6	I, Smith	168	36x6-40x12	9,000	40, 60	560
561	I, Torbensen, C			2, R		E, C	R, Detroit	½, C	Detroit				Jacox		S.		34x3½-34x7			561
563	C, Own	N	B	2, R	11½, 10½	C, E	P	½, ½	Merrill	9, 17	46x3½-52x4	L	Own	52, 6	W	Opt.	36x6-40x12	8,672		563
563a	W, Savage	N		2, R		E, E	R, Own	½, ½	Tuthill		44x3-60x4	L	Ross		I, Smith	190	36x6-40x14	10,300		563a
564	E, Own	N		4, FR	11, 11	E, E	R	½, ½	Tuthill	14, 14	50x3½-50x3½	R	Own	36, 0	S, Own	144	36x6-36x6	12,500	50, 50	564
565	W, Sheldon, W51	Y	B	2, R	10, 10	C, E	P	½, ½	Merrill	12, 17	44x3-58x4	L	Ross		I, Smith		36x6-40x12	8,960	42, 86	565
566	C, Sheldon, RA70	N	B	2, R	9⅝, 17	C, E	R	½, ½	Sheldon	11, 13	51½x3½-59½x3½	R	Ross		W, St. Marys	124	36x6-40x7d	10,240	—, 85	566
567	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x7-40x7d			567
568	I, Clark, 5D	Y	B	2, R	11, 14	E, E	R, Own	½, ½	Mather	13, 16	46x3-56x4	R	Ross	68, 0	S, Clark	162	36x6-40x7d	9,500	45, 80	568
569	C, Own	N	B	2, R	11½, 10½	C, E	P, Own	¼c, ¼c	Merrill	9, 17	46x3½-52x4	L	Own	52, 6	W, Own	Opt.		9,050	50, 72	569
570	C, Own	N	S	2, R	11½, —	E, C	P	¼c, ¼c	Mather	10. 14	48x4-60x4	L	Ross	47, 9	I. Smith	174	36x7-40x7d	11,000	66, 91	570

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Do Horses Laugh? Listen!

By FORMER CHIEF CLERK
United States Department of Agriculture

ON THE letter-head of the Horse Market Department of the Union Stock Yard & Transit Company, of Chicago, a two-page circular letter dated May 25, 1920, was sent to a large number of business men in and about Chicago and probably in other sections of the country.

The letter begins, "Talk horse. Talk it everywhere," and closes with the following: "Advertise the horse. You can't get it done through the papers. Do it yourself. Tell the barber, the bootblack, the storekeeper, the doctor, the lawyer, the mailman, the policeman, the trainman, the farmer how much work a horse can do, how fast he is, how economical, how expensive truck and auto are. Tell them the difference between an efficient work unit and a tin toy. Tell all but the automobile men. They know it now. They are beginning to realize that their number is up."

The two pages of closely spaced typewriting are filled with statements and misstatements regarding horses and "tin toys." It is amusing to analyze some of the figures and statements which the letter contains. Most any horse with the slightest sense of humor would give a real "horse laugh" if he could read the things the letter says about him.

Here's one of them: "A team of horses costs for feed, stabling, insurance, depreciation, repairs, etc., of themselves and equipment $4 a day the entire 365 days. Horses work 308 days a year, so a team costs without driver on its working days $5 a day."

TAKING the horsemen's own figures as to cost of maintaining a team, and certainly these figures have not been placed too low, a team of horses costs $4 a day as an average throughout the year. The statement that horses work 308 days a year, however, is ridiculous. Most horses work less than one-third this number of full days, and comparatively few horses work even a few hours for 308 days during the year. Reliable statistics from many sources, including the United States Department of Agriculture, show that horses on farms, and these constitute by far the largest portion of the twenty-odd millions of horses in the country, work less than 100 days per year. This would make each team cost $12 a day on the days it really works, and this is about a fair figure. Comparatively few city concerns are able to use their horses for an average of 300 days per year. For every one which attains such a record there are several who fall far short of it.

But the foregoing, while an amusing attempt to distort facts into a favorable showing for the horse, does not compare with another paragraph reading as follows: "Autos congest traffic. One-half of the width of every busy street is used for parking machines." Did the man who made that observation ever stop to think of the amount of space which would be required to park a number of teams equal to the number of automobiles and motor trucks in use around Chicago or any other large city? A horse-drawn vehicle usually requires 6 or 8 more feet on the street than a motor vehicle.

Of course, automobiles require space, but they require considerably less space than would an equal number of horse-drawn vehicles with their horses and far less than their equivalent in horse-drawn vehicles from a capacity standpoint; in fact, it would be absolutely impossible to place on our streets a number of horses equivalent to the power and working capacity of the automobiles and motor trucks found in the average city. It is doubtful if they could be packed into the streets in the busy districts, let alone move. Each automobile and motor truck represents several horsepower, and this horse-power is utilized in developing speed of the vehicle when in use. If each of them had to travel at from 2 to 3 miles per hour, the gait of a horse, the congestion of our city streets would be terrific; in fact, it would be beyond endurance. And the sanitary condition of our cities would also be far beyond endurance long before the number of horses approached the number of machines.

IN this connection, the fact may be pointed out that a few years ago, when automobiles were used in comparatively small numbers, speed laws were rigidly enforced and the speed limit was frequently 12 miles per hour or less. As the number of automobiles grew, it was found necessary to increase the speed limit and, by having the automobiles travel faster, reduce the number of automobiles in motion at any given time.

It is obvious that, if all the automobiles on our streets were moving at 10 miles per hour, each one would require twice as long to reach its destination as when moving at 20 miles per hour, which means that there would be twice as many moving automobiles on the streets at any one time. It is plain that, if it were possible to replace the automobiles and motor trucks on our streets with horses, thus reducing the speed of vehicles to approximately one-tenth that of motor vehicles, there would be ten times as many moving vehicles on our streets at all times. Yet the horsemen claim that automobiles congest traffic. And to relieve congestion we should substitute horse-drawn for motor vehicles—it is to laugh!

Another paragraph of the letter reads: "Autos are dangerous. Four hundred eight people were killed by them in Chicago in 1919." This is regrettable of course, and everything should be done to prevent such accidents from the thousands of automobiles and trucks in use, but, bad as the situation is, we shudder to think of the number which would probably have succumbed had an equal number of horse-drawn vehicles been in use. A few years ago, when horse-drawn vehicles were commonly found in our city streets, it was not at all an unusual occurrence for a single runaway to kill or injure several people.

It would be interesting to look up some of the old records of accidents from horse-drawn vehicles and compare them on a percentage basis with the number of accidents from motor vehicles on our streets to-day. The results would greatly surprise as well as pain the men who are now advocating the return of horses for city and other traffic. Any one who has ever driven a horse and operated an automobile or truck knows very well that the motor driver has far better control of his vehicle than the man driving a team. Carelessness is responsible for nearly all accidents, whether with automobiles or anything else. Just imagine what would happen if some reckless young men were driving horses around our city streets as carelessly as some drive motors—it wouldn't be safe to attempt to cross a street.

HERE'S another: "A good horse is a good advertisement. No one notices a machine; everybody sees a good horse." True, very few people notice a machine on our city streets to-day; they are far too common. Perhaps everyone does see a good horse, although we are inclined to believe that the horsemen are a little too optimistic on this point; but one thing is certain, the kind of advertising which a horse does for a firm is not the kind the average business house desires. A horse is a good advertisement of an out-of-date concern, one which does its hauling and delivering in a slow and expensive manner. That is about the only kind of advertising a business house receives from its horses, no matter how good they are.

Again—"Horses are faster than machines for the same money within the horse's working area." The reader will notice that two very important qualifications have been added—"for the same money," and "within the horse's working area." The horse's working area is very limited, but even within this area motor trucks properly applied have in most cases shown superior economy and efficiency. Were it not so the circular letter referred to above would never have been written. It is the displacing of horses by motor trucks for work within "the horse's working area," as well as without it, which has led to the attempt on the part of the horse dealers to boost the horse and knock the truck, regardless of a little thing like the truth.

If these quotations have not affected the reader's risibilities, here is one which certainly should: "There is a buyer on the Chicago market to-day looking for driving horses for city salesmen." We can not but wonder what company is planning to fur-

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nish its salesmen with driving horses to travel the Chicago streets, neither can we conceive the type of salesman who is going to be willing to spend his time behind a horse these days. Either his time is not very valuable or his returns from individual sales are so great that he does not have to make any haste between them.

There have been hundreds, probably thousands, of large concerns which have during the past few years furnished automobiles for their salesmen, not only in city work but for covering country districts as well. Even though the machines incurred a slighlty higher cost per mile traveled than the railroad fare would amount to, the salesman's time for these companies and for the salesmen themselves was worth considerably more because of the time saved by avoiding delays in waiting for trains, etc.

BUT now, according to the horsemen's circular letter, some enterprising concern is going to go one better and will furnish its salesmen with driving horses. Ye gods and little fish cakes! Some progressive concern! Why not get them nice little ox-carts and make a real stylish fourteenth-century rig? Good oxen cost less to maintain than horses, as they will do well with comparatively little grain or concentrates. Furthermore, they always have a 100 per centum scrap value as beef in case of accident or disabilitv from old age, and their depreciation is therefore considerably lower than that of horses. We believe that this suggestion is well worth consideration by the company which is trying to buy driving horses for its salesmen. If everybody notices a horse on our city streets they will certainly notice a neat and attractive ox team, and think of the advertising they would furnish—also think of the greater safety with oxen as compared with automobiles and also horses. This safety feature is very important, according to the horsemen.

Here is another keen one: "A horse can work summer and winter. Heat does not hurt him under proper management. Snow and ice do not stop him." Again, a very important qualification has been added in that "proper management" is required to prevent heat from hurting him. It is unfortunate that more drivers do not understand the proper management of horses so as to avoid having them injured by heat during the hot weather. There have been thousands of instances where heat has very seriously hurt horses, or at any rate it hurt the pocketbook of the farmers who owned the horses.

In one week last spring the province of Ottawa, Canada, lost from heat 1,000 horses valued at $200,000, and similar incidents have occurred in the United States at many different times. A few days of excessively hot weather during harvest season or other times of rush work on farms and the horses drop like flies. If there is a "proper management" which will avoid this, the horsemen should by all means inform farmers and other horse owners so as to avoid such staggering losses.

The statement that "snow and ice do not stop him" is just about as reasonable as the remark about the effects of heat. Was the man who wrote that sentence ever on a city street after a sleet storm or a thaw and freeze? Every winter in Chicago there are hundreds of horses that are stopped very suddenly by the ice, or at any rate that would be the impression of an unbiased onlooker who sees them lying around with the drivers working on them, trying to get them on their feet again. Perhaps the man who made the statement is a hair-splitter and would argue that it was not the ice which stopped them, but the pavement on which they fell. At any rate, some of them stop so suddenly as to take the breath out of them and not infrequently so quickly that they break a bone and have to be killed where they lie.

Last winter in Chicago there were several mornings when the streets were very slippery. Automobiles and motor trucks, properly equipped with chains and some not so equipped were traveling almost as usual. Here and there, to be sure, through careless handling, poor judgment, or inefficient non-skid devices, automobiles and motor trucks were stalled or even wrecked, but these represented a very small percentage of the total number. The casualties among horse-drawn vehicles and the number of these which were put entirely out of commission were certainly several times greater than among the motor vehicles and yet "snow and ice do not stop him."

THE horsemen have made a great deal of capital lately out of the severe storm which struck New York last winter and which blocked all kinds of traffic to some extent. They have repeated with great glee the statements of one or two companies to the effect that their horse-drawn wagons traveled when their trucks were unable to move, but they completely ignored the large number of other trucks which, while somewhat delayed and hampered by the storm, nevertheless traveled through streets where horse-drawn vehicles were unseen.

They further ignore the immense amount of work done by motor trucks and tractors in clearing the streets and making it possible for the horses to get through. If the city had had to depend upon horses to open up the streets to traffic the suffering would have been much greater than it actually was. It was due to the motor-driven vehicle's ability to travel the streets under the very abnormal conditions and to operate snow-plows to remove the heavy fall of snow, that the city suffered so little inconvenience.

But supposing the snow had stopped every motor truck in the city and all the horses had been able to travel for a day or two, it would have practically no bearing upon the economic value of trucks. Conditions such as existed in New York during the storm referred to were so unusual as to have little bearing on the use of trucks in general, and any thinking person knows it. Such storms every thirty or fifty years in one or two cities in the country should certainly not be a very serious drawback to the use of trucks, especially when we consider the large number of cities where snow never falls, and the myriad of others where it is never deep enough to interfere with traffic.

Taken altogether the circular letter which was intended to help put the horse back in his old place and to eliminate the "tin toys," is a good deal like the frantic but useless yipping of a small lap dog when he sees a large bulldog making off with his bone. It is a wonder some of the horses we still have with us don't die "laffin'" at such stuff.

Wheels Require Inspection

Experience has proved conclusively that a daily inspection of the motor truck is instrumental in adding hundreds of miles to the service-life of the machine. The daily investment of a few minutes in mechanical inspection repays the owner many times over. It is the old story of "a stitch in time" applied to a hard-working industrial unit.

Fleet owners naturally have among their drivers the good, the bad and the indifferent. And since expert supervision is, therefore, indispensable, the service manager becomes responsible for keeping the equipment in first-class condition. If he is a competent man, a large share of his time will go to motor truck inspection because this is the only way he can detect minor troubles in time to keep his machines out of the repair shop. Even this service manager, with all his mechanical knowledge, often will overlook the wheels. The reason for this lapse is simple enough: Barring accidents, this man may have handled motor trucks for years without a single wheel-repairing job. The very fact that wheels stand up so well causes him to take their good performance for granted and leave them out of his inspections just as instruction books on motor trucks leave them out of their list of necessary attentions.

Other parts subjected to punishing duty demand expensive upkeep. Not so with wood wheels. All they ask is an occasional coat of paint to preserve the wood grain from the elements. If this small attention is given promptly when needed, the wheel will perform almost indefinitely. Occasionally the hub bolts require setting up, a few minutes and a handy wrench is all that is necessary. This is an upkeep cue. The loosening of these bolts is a sure sign that paint is needed between the spokes at the point where they join the hubs. See that your motor trucks are inspected daily; see that every point of upkeep is given attention.

London Street Is Rubber Paved.

At the recent annual meeting of the Rubber Growers' Association in London, reference was made in the chairman's speech to the possibility of the adoption on a wide scale of rubber as a road surface. A famous London thoroughfare south of the Thames was resurfaced with rubber some months ago. The material is prepared and cured by a special process and laid in blocks, much in the same way as ordinary paving is applied. This method of road construction is somewhat costly as regards initial outlay, but it is noiseless and exceedingly durable and hygienic.

Commerce Locates in Canada

Commerce Motor Truck, Limited, which has been organized at Guelph, Ontario, will be the Canadian plant of the Commerce Motor Car Company, of Detroit. The company from its Canadian plant will specialize on motor trucks of 1 or 2-ton capacity.

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Freuhauf Has New Time-Saving Automatic Coupler

ELIMINATES LOSS OF LABOR IS CLAIM

The Fruehauf Trailer Company, of Detroit, is producing a new and novel type of automatic fifth wheel and an adjustable support for semi-trailers. Ever since the advent of the semi-trailer efforts have been expended to increase the efficiency by a more rapid method of changing the tractor from one unit to another, and eliminate the loss of time and labor required in this operation. The Fruehauf offering has undoubtedly solved the problem. With this equipment the trailer can be dropped or picked up in less than a minute, doing away with all physical labor heretofore required.

The accompanying photograph shows the fifth wheel mounted on chassis of the tractor and in position to receive the semi-trailer. The wheel itself and the side members are of cast steel, strongly reinforced by extra heavy ribs that are not visible in the photograph. The draught springs are mounted on a heavy steel shaft, fitted with sleeves on which the sliding carriage, supporting the wheel, operates. The two carriages are fitted with a short shaft serving as an axis for the cast steel wheel, and allows for a partial rotation or rocking motion. The wheel assembly at rest forms an incline plane at the rear of which is a V-shaped opening leading to the coupling device in the center. This coupling is a drop-forged lever arm pivoted at a point just off center, and upon receiving the king pin is forced into place and automatically locks by means of a dog at the outer edge of the wheel. The unit as a whole is exceedingly compact, strong and artistic in its design, and weighs less than 300 pounds in the 30-inch model, and 250 pounds in the 24-inch size.

The adjustable trailer supports are likewise of original design, being constructed of tubular steel and cast steel brackets. Each leg is fitted with an adjusting screw and steel base operating on a ball and socket joint. The adjusting screws allow for a standardization of the product and enables it to meet with the varying heights of tractor-truck chassis as well as unequal grade conditions at the loading point. The supports are hinged to the frame members of the semi-trailer and when not in use are drawn back into clear by means of a gear-driven screw. These gears are operated by a crank attached to the right-hand side of the trailer frame. As a whole the devices shown are extremely efficient and make the use of semi-trailers in rotation very efficient.

To make a connection, the tractor backs in position, picks up the semi-trailer on the lower edge of the inclined fifth wheel and forces it into position, automatically locking, the supports are relieved of their burden and are quickly folded into clear. The disconnection is equally as simple, once the trailer is placed in position to load or unload, the supports are lowered, the lock is opened and the tractor drives away. The entire operation being controlled by the driver of the tractor.

Good Roads Opening Markets for American Machines in Venezuela

A striking example of the manner in which good roads can develop a country, and at the same time provide a market for motor vehicles, is provided by the big scheme of new road construction that has been carried out during the past few years in the Republic of Venezuela, South America. Before this scheme was embarked upon, the only means of transport for passengers and goods was provided by two lines of indifferently run and high-tariffed railways, and "roads" which were really mule tracks up and down the mountain sides.

Nearly 2,000 miles of new roads have been built, and in their construction the requirements of heavy and fast motor traffic have been borne in mind. Military requirements are kept well to the fore in the laying out of the new routes, in order to provide for the quick mobilization of the Venezuelan army of 50,000 men at any of the strategic points of the country. But the greatest advantage of the new roads has been the impetus it has given to trade. Before, the lack of adequate transport facilities was a most serious handicap to the development of commerce.

That United States motor manufacturers recognize the export market opened as a result of this new road building is obvious from the following figures, showing total weights of cars, almost without exception American, imported in Venezuela. None were imported in 1910, but in 1911 the weight of car imports was 13,926 pounds, in 1912, 424,822 pounds, and in 1916 2,122,216 pounds.

Highway Transport Grows; Public Reaps Benefits

LOUISVILLE COMPANY DEVELOPS RAPIDLY

Louisville, Kentucky, since the completion of a central freight depot and the purchase of three large, well established motor truck lines by the Union Transportation Line, claims one of the best equipped highway transportation organizations in the country.

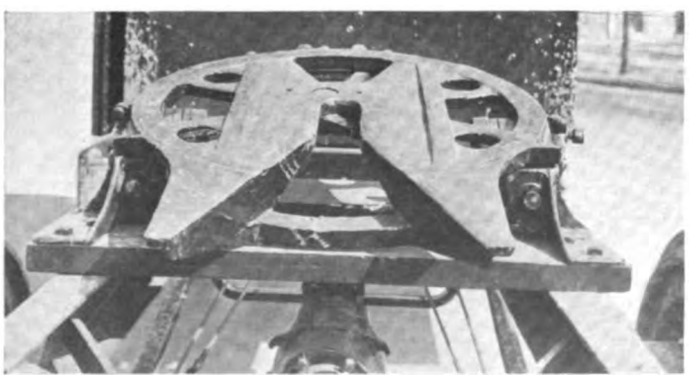
This company, incorporated at $100,000, began operations only six months ago. Its development came as a result of the public's recognition of its value as an adjunct to other transportation agencies where they exist and the fulfillment of a long-felt need where other agencies do not exist. That the public has an active interest in the welfare of the new mode of transport is best evidenced by the fact that it has invested its money in the venture.

The company when founded planned to establish seven main and 47 secondary routes, covering 136 towns, all within a radius of 75 miles of Louisville. Five of these main routes are now in operation. The company now owns more than 20 motor trucks, which carry to the small inland towns all the merchandise made, distributed, or sold in Louisville and bring back to the city merchants livestock, grain, green groceries, and all other farm products. Motor trucks leave the Louisville depot twice daily. This service has been the means of saving shippers money by decreasing the time of delivery. In addition to time service, the company gives door-to-door service, something that is not done by any carrier other than express.

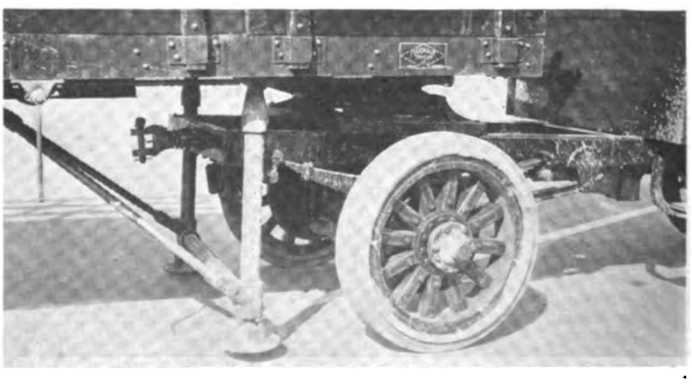
There are now about 5,000 motor truck lines recorded and many more thousand unrecorded. Motorized highway transport is a new industry, but its benefits are so varied that it will be but a short time before it will spread, like network, over the entire country.

Cogill with Hurley Motor Company

H. F. Cogill has been appointed salesmanager for the Hurley Motor Company, of Washington, D. C., handling Nash cars, Nash motor trucks and Selden motor trucks for the territory of Washington and adjacent states. Mr. Cogill has been connected for some time with the Auto Outing Company of Baltimore, Maryland.



Freuhauf trailer coupling.



Supports for trailer when loading.

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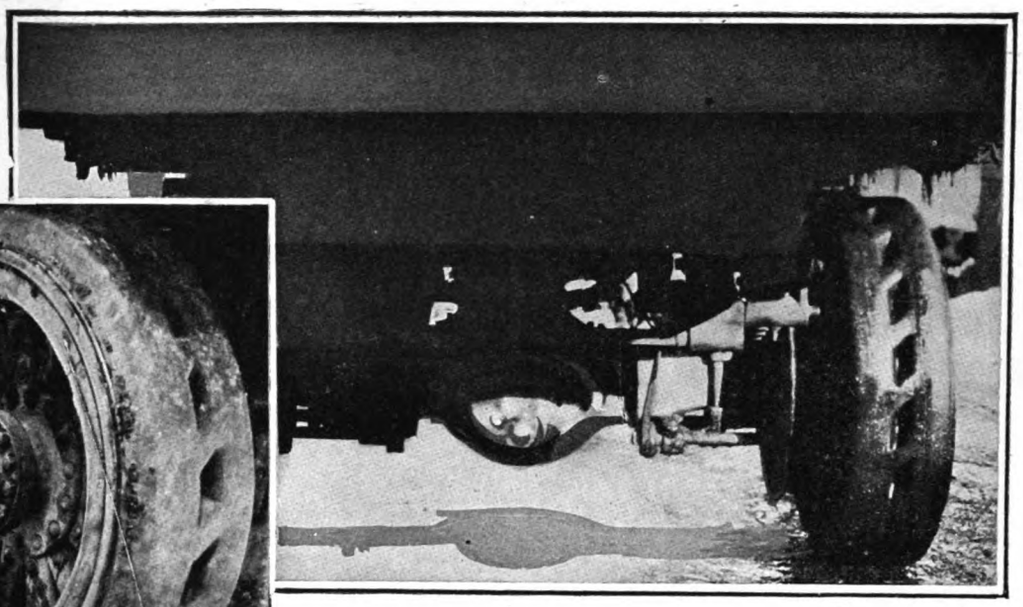
"The final word and greatest advance in solid truck tire construction."



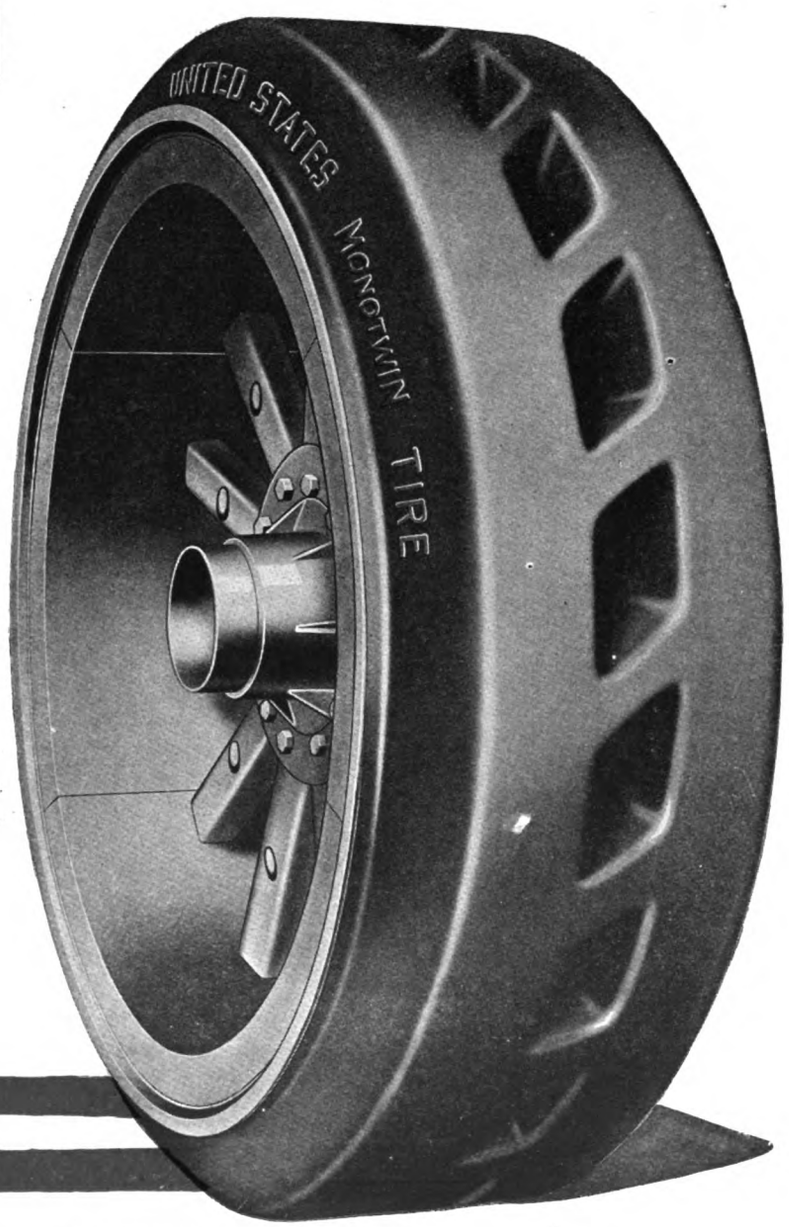
HERE at last is the MONO-TWIN—a grainless rubber non-splitting, solid truck tire on a single large base—possessing all the advantage of both single and dual without the disadvantages of either.

If your trade demands either a large single tire or dual singles—MONO-TWIN fills the bill equally as well.

Six big selling points—

1. Made of grainless rubber—will not split or chip.
2. Rubber and base band chemically united—ending base separation.
3. The most advanced method of obtaining maximum traction.
4. Designed to eliminate the chief cause of tire deterioration—internal heat.
5. Depressions shaped to eliminate lodging of stones and foreign matter.
6. No regrooving. Depressions extend deep into heart of tire and below point where the tire is worn to the limit of its serviceability.

After six years of painstaking experimentation, MONO-TWIN stands today the newest and most advance idea in truck tire manufacturing. A good buy—stock for a big demand.



United States Tires are Good Tires

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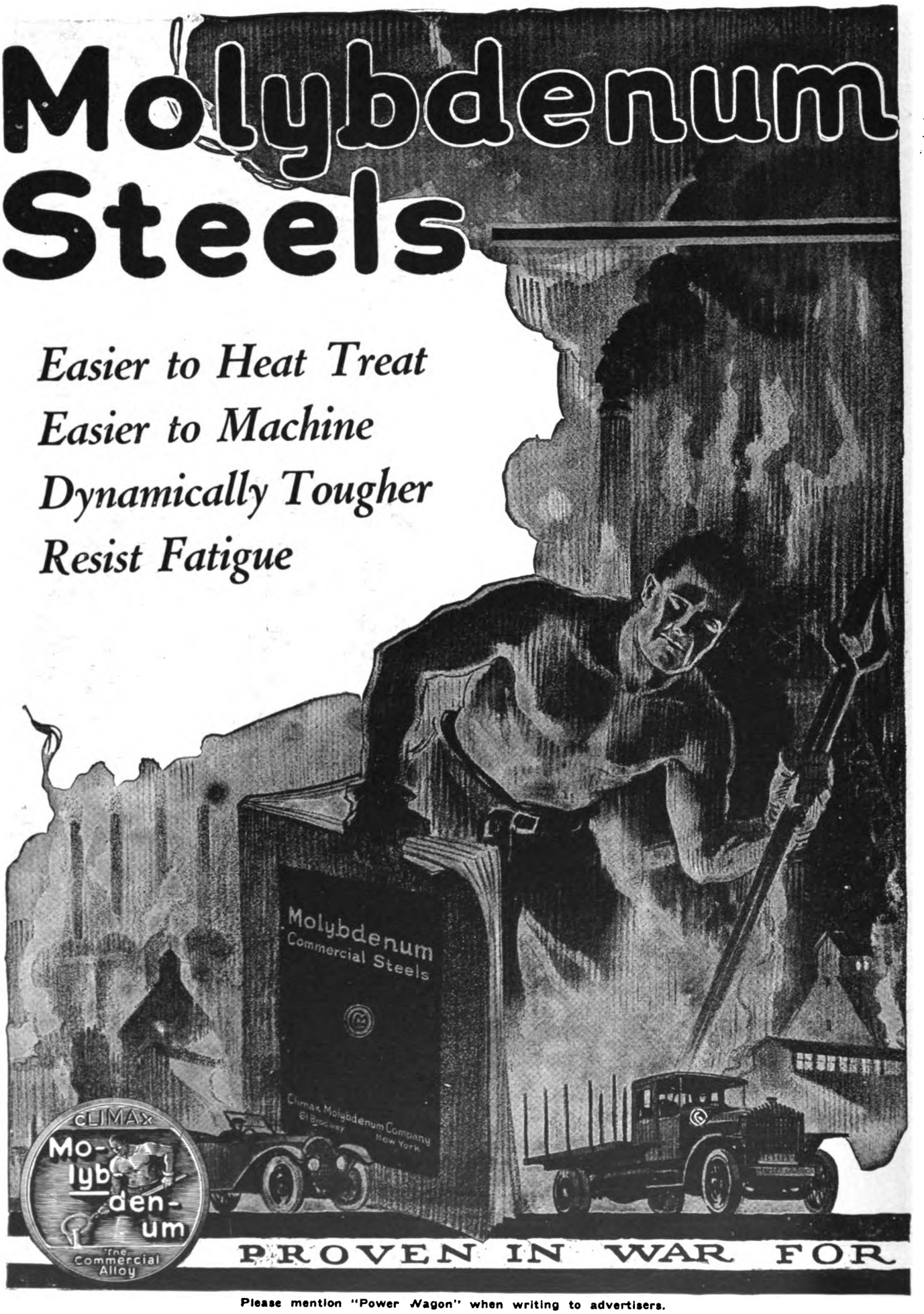

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1½ to 3½ ton capacities
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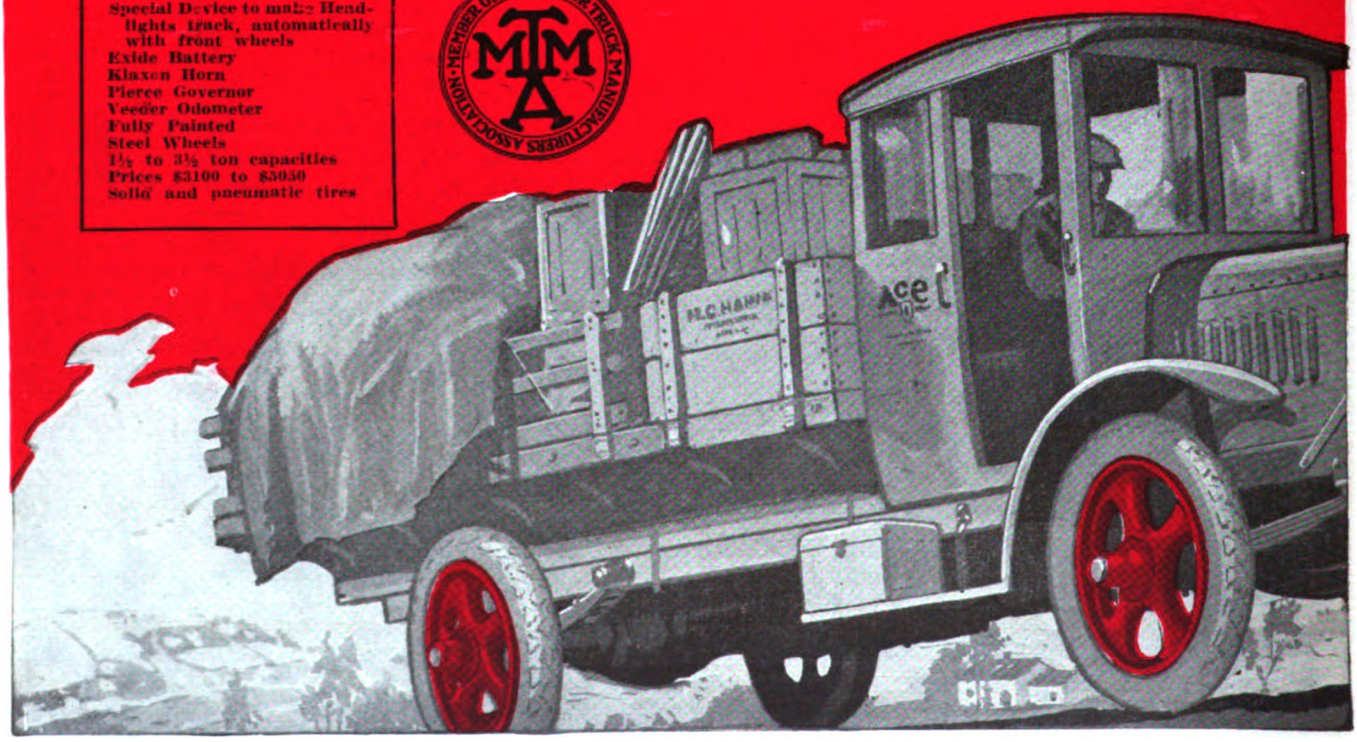
SHORT now a half million freight cars and unable to move normal traffic because of strikes and bad weather, how can the railroads cope with fall's peak loads of grain, coal and other products requiring extra tens of thousands of cars?

They can't! Motor trucks must carry the burden of fall's industrial tonnage.

Trucks must both get the raw materials and deliver the finished products. Long hauls as well as short hauls will require trucks.

Manufacturers who plan now to use trucks will have them when needed and their goods will continue to move when those of competitors are tied up in warehouses and terminals.

MEMBER OF THE MOTOR TRUCK MANUFACTURERS ASSOCIATION MTMA



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For unless trucks keep industrial tonnage moving it *won't move!*

Dealers can relieve the situation by offering Ace completely equipped trucks to business houses *now* on the basis of *immediate delivery.* Grasp your opportunity by getting in touch with us at once.

The American Motor Truck Co.
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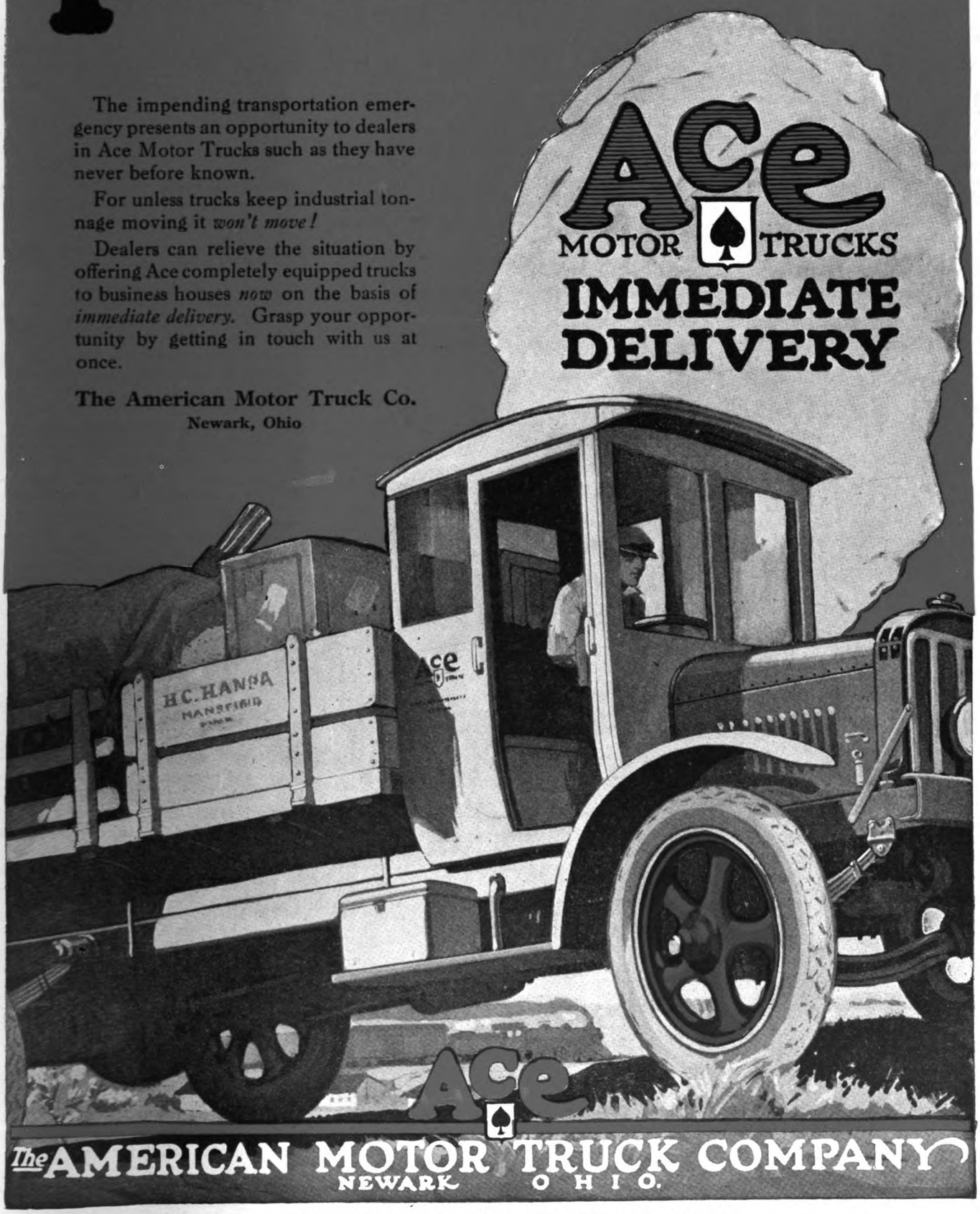

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Laws Dead, Passed and Pending

Report of Motor Vehicle Conference Committee on Legislation Affecting Operation of Power Wagons and the Automotive Industry General'y

PART II

THE Motor Vehicle Conference Committee composed of leading members selected from the six nationally organized automotive associations has reported in bulletin form on important motor vehicle bills recently passed by, or now pending in state legislatures. The information which follows has been compiled from the minutes of meetings held by the committee:

New Jersey

H. B. 5—Garage Keeper's Lien.

Extends provisions of Garage Keeper's Lien Act to cover claims of garage keeper against lessees' motor vehicles.

By Rowland.
Reported favorably, Feb. 2, 1920.

H. B. 215—Garage Keeper's Lien.

Supplements Garage Keeper's Lien Act by making a duly recorded chattel mortgage upon a motor vehicle priority over the lien given a garage keeper for his claims against such motor vehicles.

By Fritts.
In Revision of Laws Committee.

H. B. 236—Auto 'Bus Insurance.

Requires every insurance company which insures any auto 'bus, operator or user against loss arising from liability for injury or death to persons to deposit with the State Commission of Banking and Insurance approved securities to the value of $50,000 as protection for the claims of such persons.

By Stanton.
In Revision of Laws Committee.

H. B. 248—Auto 'Bus Regulations.

Provides that the governing body of every municipality shall have full power to regulate auto 'buses, fix fees for licenses and prohibit the operation of such auto 'buses unless the ordinances are complied with.

By Stout.
Pased House, Mar. 16, 1920.

H. B. 370—Auto 'Bus Public Utility.

Defines "auto 'bus" (so-called "jitney") and places it under the category of "public utility," to be subject to the Public Utility Law. Owners must secure consent from the State Public Utility Commisison as well as from the municipal authorities to operate.

By Pierson.
Reported Favorably Mar. 15, 1920.

H. B. 416—Vehicular Bridge and Tunnel Bonds.

Authorizes bond issue of $28,000,000 to build bridge over Delaware and tunnel under Hudson. Interest and amortization to be met by tolls. No bonds to be retired until ten years from issuance. Pending construction and collection of tolls interest to be met from general fund of state.

By Herschfield.
In Judiciary Committee.

H. B. 459—Trailers.

Allows a motor vehicle to carry more than one trailer over highways.

By Stanton.
In Highways Committee.

H. B. 460—Weight Limit.

Prohibits operation of vehicles whose gross weight is more than 28,000 pounds, the weight to be distributed so that there will not be more than 800 pounds per inch width of tire resting upon the surface of the highways.

By Stanton.
In Highways Committee.

H. B. 465—Reciprocal Insurance.

Authorizes and regulates the exchange of reciprocal or inter-insurance contracts of insurance or indemnity against any and all risks of ownership or operation of automobiles.

By Evans.
In Banks and Insurance Committee.

H. B. 508—Registration Fees.

Makes fee for annual registration of automobile $1 per horsepower.

By McAteer.
In Highways Committee.

H. B. 509—Trailer Registration Fees.

Raises annual registration fee from $3 to $10.

By McAteer.
In Judiciary Committee.

H. B. 511—Registration Fees.

Changes basis of classification for automobiles and fixes their annual registration fees. Increases registration fees for commercial motor vehicles. Forbids operation of motor vehicles whose gross weight is more than 26,000 pounds. The classes and schedule of fees for automobiles are:

1st class automobiles, weighing 2,200 pounds or less	$ 7.50
2nd class automobiles, weighing 2,201 to 3,000 pounds	10.00
3rd class automobiles, weighing more than 3,001 pounds	15.00

The fees for commercial motor vehicles are based on gross weight and carrying capacity and are graded as follows:

	Per annum.
2,000 pounds or less	$ 10.00
2,001 pounds to 4,000 pounds	15.00
4,001 pounds to 6,000 pounds	20.00
6,001 pounds to 8,000 pounds	30.00
8,001 pounds to 10,000 pounds	50.00
10,001 pounds to 12,000 pounds	70.00
12,001 pounds to 14,000 pounds	90.00
14,001 pounds to 16,000 pounds	110.00
16,001 pounds to 18,000 pounds	130.00
18,001 pounds to 20,000 pounds	150.00
20,001 pounds to 22,000 pounds	170.00
22,001 pounds to 24,000 pounds	190.00
24,001 pounds and over	250.00

By Herschfield.
In Judiciary Commitee.

S. B. 83—Reciprocal Insurance.

Authorizes individuals, partnerships and corporations to exchange reciprocal or inter-insurance contracts with each other or with individuals, partnerships and corporations of other states and counties providing indemnity among themselves from any loss which may be insured against under other provisions of the law relating to fire insurance and all classes of automobile insurance.

By Runyon.
First reading in Senate, Feb. 3, 1920.

S. B. 85—Toll Roads and Bridges.

Provides for the elimination of all remaining toll roads (about 16.5 miles) and all remaining toll bridges (three, in number) within the state.

By Hegaman.
Passed Senate March 2, 1920; House, March 17, 1920.

S. B. 88—Garage Keeper's Lien.

Supplements Garage Keeper's Lien Act by requiring garage keepers to file their liens in the office of the clerk of the Supreme Court in order that prospective purchasers may have notice of such lien.

By White.
Second reading in Senate, Feb. 17, 1920.

S. B. 165—Vehicular Bridge and Tunnel.

The purpose of this measure is to ratify and confirm the agreement made between the State of New Jersey and New York for the construction of a pedestrian and vehicular tunnel.

By Mackay.
Passed Senate, March 9, 1920.

S. B. 271—Motor Vehicle Fund.

Allows counties and muncipalities to borrow in anticipation of receipts from the motor vehicle fund.

By Kays.
Second reading in Senate, March 17, 1920.

New Jersey

House Bill 138.

Provides for a $28,000,000 bond issue to construct bridge over Delaware and vehicular tunnel under the Hudson. Carrying charges to be met by tolls, after the bridge and tunnel are constructed with motor vehicle fund to be drawn on to meet deficit if tolls are inadequate. Pending their construction the inference to be drawn from the bill is that the motor vehicle fund will have to carry the entire burden.

Introduced by Gaede, Feb. 3, 1920, and referred to Committee on Judiciary.

[The MVCC has this measure under advisement.]

House Joint Resolution 1—Passed House.

Appoints a Commission to investigate the use which vehicles from other states make of the highways of New Jersey and to report on the adequacy of the present fees paid by such vehicles.

Introduced by DeVoe, Jan. 26, 1920, and referred to Committee on Highways.
Reported favorably, Feb. 9, 1920.

[The idea lying behind the appointment of this Commission transgresses the principle of untrammelled freedom of highway transportation and travel between states which the MVCC believes in. It is there-

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fore the opinion that the appointment of such a Commission whose findings are virtually prescribed in advance of an investigation should be discouraged.]

Senate Bill 23—Reported favorably.

Provides for co-operation between the state and its counties in the planning of County Highway Systems connecting and co-ordinating with the State Highway System.

Introduced by Whitney, Jan. 14, 1920, and referred to Appropriation Committee.

[This is another advance step toward the elimination of the haphazard selection of routes for County Highway Systems regardless of the social and economic needs of the counties. The MVCC believes that this bill should have the hearty support of all disciples of good highways.]

Senate Bill 27—Passed Senate.

Appropriates $210,000 annually from the Motor Vehicle Fund for unimproved township highways.

Introduced by Whitney, Jan. 14, 1920. Referred to Boroughs and Townships Committee and reported favorably, Feb. 2, 1920.

[Since this measure would lessen the funds annually available, first for the maintenance of State Highways and second for the improvement and maintenance of extensions of, additions to and immediate connection with State Highways and scatter the money on scores of outlying disconnected thoroughfares the MVCC regards the measure as ill-advised and believes it should not become law.]

Senate Bill 51.

Gives State Highway Commission control over portions of State Highways lying within municipalities of 20,000 population or less. The present limit in the law is 12,000 population.

Introduced by Reeves, Jan. 26, 1920. Passed Senate, Feb. 9, 1920.

[This measure aims to get rid of situations where excellent State Highways reach municipalities in which continuations of these State Highways are in wretched condition owing to the inability or unwillingness of the municipal authorities to improve them. State control over State Highway sections in larger municipalities and consequently in more municipalities will get rid of much of this trouble and the MVCC favors this extension of State Highway authority.]

Senate Bill 61.

Repeals "Act for the better protection of garage keepers and automobile repairmen."

Introduced by Simpson, Feb. 2, 1920, and referred to Revision of Laws Committee.

[The MVCC is opposed to the repeal of the "Garage Keepers Lien Act."]

New York

[There have been introduced in both branches of the New York State Legislature and indeed in both branches of the legislatures of the other states under consideration, numerous bills whose intent is to curb the theft of motor vehicles. Many of these measures are excellent as far as they go, but are deficient in one or more vital points. Others set up cumbersome and oftentimes impracticable machinery of administration. The MVCC has been giving much attention to anti-theft legislation and has just completed a bill which it believes could be adopted advantageously by all of the states of the Union. In the case therefore of anti-theft measures pending in state legislatures it will send the sponsors of such measures copies of this Proposed Uniform Anti-theft Law and urge them to consider the substitution of it for their bills.]

House Bill 156; Senate Bill 117.

The purpose of these measures is to require a state-wide registration of motor vehicles and to increase the registration fee to $2.

House Bill 204; Senate Bill 150 — Passed Senate.

There will be a hearing on these and other motor vehicle bills at Albany before the Internal Affairs Committees on Wednesday, February 25th, at 1 P. M.

[The MVCC is very much opposed to the passage of these measures and it is hoped that all those who share this opinion will be represented at the hearing and make their views known to the law-makers.]

House Bill 230; Senate Bill 111—Joint Committee Hearing.

Provides that the Secretary of State shall pay the State Treasurer 50 per centum rather than 75 per centum of motor vehicle collections and the various County Treasurers 50 per centum instead of 25 per centum as at present.

House Bill 230—Introduced by McGinnies, Jan. 21, 1920, and referred to Internal Affairs Committee.
Senate Bill 111—Introduced by Knight, Jan. 20, 1920, and referred to Internal Affairs Committee.

[This measure is opposed by the MVCC on the grounds which have already been advanced for opposition to similar measures pending in some of the states already considered. It believes in the concentration of motor vehicle money on State Highways or main arteries of travel.]

House Bill 260—Hearing.

Makes a person who "Operates or drives, or directs, or knowingly permits any one subject to his commands to operate or drive any vehicle of any kind in a culpably negligent manner, whereby another suffers bodily injury," guilty of assault in the third degree.

Introduced by Fearon, Jan. 22, 1920, and referred to Codes Committee, which will give hearing upon it Feb. 25, 1920.

[The MVCC has this measure under advisement.]

Senate Bill 182.

Limits size and weight of auto trucks and trailers. The maximum width, inclusive of load, is fixed at 96 inches; the height at 12 feet 6 inches and the "combined weight of truck and load at 25,000 pounds and the load to be so distributed that there shall not be more than 800 pounds per inch in width of tire upon any one wheel."

[The MVCC will be represented at this hearing and will endeavor to have the Senate Bill 182 conform with the provisions of the Proposed Uniform Vehicle Law in the matter of size and weight limitations.]

H. B. 502; S. B. 427—Disposition of Motor Vehicle Fund.

Requires 50 per centum of motor vehicle fund to go to the counties for county highways rather than 25 per centum as at present.

House Bill 502, by Gillett—same as House Bill 230.
Reported in Bulletin No. 1.
In Internal Affairs Committee.
Senate Bill 427, by Towner—same as Senate Bill 111.
Reported in Bulletin No. 1.
In Internal Affairs Committee.

H. B. 633; S. B. 491—Registration Fees.

Extends registration fees provided for auto trucks to cover "light delivery cars."

House Bill 633, by Wheelock.
In Internal Affairs Committee.
Senate Bill 491, by Knight.
Reported favorable, March 3, 1920.

H. B. 634; S. B. 490—Registration Fees.

Extends proviso of existing law that total fees for registration and re-registration of a six-cylinder motor vehicle shall not be less than $10 to cover twelve, and eight-cylinder motor vehicles and proviso that minimum registration fee of $5 for a four-cylinder motor vehicle shall apply to any other motor vehicle.

House Bill 634, by Wheelock.
Stricken from Calendar, March 17, 1920.
Senate Bill 490, by Knight.
Passed Senate, March 10, 1920; House, March 17, 1920.

H. B. 825—Lights.

Requires motor vehicle to have proper lights as prerequisite to registration.

By
In Internal Affairs Committee.

H. B. 912—Indemnity Bond.

Requires owners of motor vehicle to file with his application for registration a bond or insurance of not less than $5,000, "conditioned for the payment of any judgment recovered against such owner for personal injuries or property damage."

By Ross.
In Internal Affairs Committee.

S. B. 280—Workmen's Compensation for Chauffeurs.

Places chauffeurs under the provisions of the Workmen's Compensation Law.

By Kaplan.
In Labor and Industries Committee.

S. B. 736; H. B. 260—Negligent Operation of Motor Vehicle.

Makes a person who "operates or drives or directs or knowingly permits anyone subjects to his commands to operate or drive any vehicle in a culpably negligent manner whereby another suffers bodily injury" guilty of assault in the third degree.

Senate Bill 736, by Walton.
In Codes Committee.
House Bill 260, by Fearon.
In Codes Committee.

S. B. 869—Motor Vehicle Law Amendments.

Where only money fines are now provided in the law for certain offenses this measure gives the courts the power to inflict jail sentences or both jail sentences and the money fines; it makes numerous changes in the grounds for the suspension or revocation of operators' or chauffeurs' licenses and places certain new stipulations with regard to brakes, steering gear, signaling devices, etc., and the use thereof.

By Kelly.
In Internal Affairs Committee.

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Ohio

The Ohio Legislature, after giving consideration to a great number of motor vehicle bills, took final action only on the following very important measure before adjourning sine die its regular session called in 1919 but prolonged into 1920.

House Bill 573.

Provides for a tax on the operation of motor vehicles as follows:

Each motor bicycle or motorcycle.....$ 2.50
Each side car 1.50
Each passenger car of 25 H.P. or less. 8.00
Each passenger car of 26 to 35 H.P..... 12.00
Each passenger car of 36 or more H.P. 20.00
Each commercial car the H.P. fees plus 20 cents per 100 pounds gross weight of vehicle and load or fractional part thereof.
Each trailer the same tax based on gross weight of vehicle and load as provided for commercial cars.
"Each manufacturer or dealer shall pay or cause to be paid a tax of $20 for each place of business in the state." On such registration they may secure "certified copies of such registration" and for each copy on the payment of $2 receive a set of registration plates.
Passed Dec. 16, 1919; presented to the Governor Dec. 19, 1919, who failed to act upon it within 10 days thereafter, whereby it automatically became a law.

[The Motor Vehicle Conference Committee has been informed by the Ohio State Automobile Association that the legality of this measure is being tested in the courts on the grounds that it makes motor vehicles the object of double taxation.]

Oregon—Special Session—Adjourned Jan. 17, 1920

House Bill 52.

Authorizes $10,000,000 bond issue for highways, and provides for the payment of the interest and principal thereof by any funds subject to the control of the State Highway Commission.

Passed both branches of the Lggislature. Signed by Governor, Jan. 22, 1920.

House Bill 85.

Restricts weight of motor trucks, etc., permitted to operate on the highways to limits disapproved by the Proposed Uniform Traffic Law.

Passed both branches of the Legislature. Vetoed by Governor, Jan. 21, 1920.

[This measure, although vetoed by the Governor, is likely to come up again for action, either at a special session where it may be passed over the Governor's veto or else in the shape of a new bill at the next regular session. The Motor Vehicle Conference Committee very much disapproves of the restrictions contained in the measure in its present form, and feels that if they again come up for legislative consideration timely opposition should be made to them.]

Senate Bill 35.

Lays down "rules of the road" to regulate vehicular traffic; provides an annual registration fee of $4 for chauffeurs and for "chauffeur's badge"; provides for perpetual operator's license at initial fee of 25 cents.

Passed both branches of the Legislature. Signed by Governor, Jan. 22, 1920.

In addition to these measures both the House and Senate passed joint petitions upon the United States Congress for the passage of the National Highway System bill and for more Federal assistance in building highways in the forests and reservations and other lands owned by the Federal Government in the West.

Rhode Island

House Bill 524.

Prescribes certain obligatory equipment for motor vehicles, among which is the requirement that every motor vehicle of more than 10 horse power shall have "at least two powerful brakes" and that commercial motor vehicles shall have a rear-view mirror.

Introduced by Bashaw, Jan. 8, 1920, and referred to Judiciary Committee.

H. B. 695—Snow Removal.

Appropriates $50,000 for removal of snow from State Highways.

By Eaton.
Passed House, Feb. 13; Senate, Feb. 17.
Signed by Governor, Feb. 19, 1920.

H. B.—769—Snow Removal.

Provides for removal of snow from highways adopted as parts of the State Highway System.

By Coswell.
In Finance Committee.

H. B. 733—Examination of Operators.

Provides for suitable tests for the acuteness of vision of applicants for license to operate motor vehicles.

By Dolan.
In Judiciary Committee.

South Carolina

House Bill 235—Reported Without Recommendation.

Provides for $25,000,000 bond issue for highways to be carried and retired by motor vehicle fees; fixes annual motor vehicle fees as follows.

$1.00 per H.P. for automobiles and motorcycles.
2.00 per H.P. for motor trucks.
10.00 per trailer.
50.00 per dealer for each make of motor vehicle sold.
Introduced by Burguson.
Referred to Special Highway Committee, Jan. 20, 1920.

[The MVCC opposes this measure on the grounds that the motor vehicle fees should not be used to retire the bonds and because the fees fixed in the bill do not conform with those advocated in the Proposed Uniform Vehicle Law.]

House Bill 324—Withdrawn.

Establishes a State Highway Department; fixes motor vehicle license fees and provides for their collection by the clerks of courts and for their disposition in the county in which collected.

Introduced by Buckingham and Gaston. Given second reading in House, Jan. 21, 1920.

[The MVCC, while finding no fault with the registration fees provided for in this measure, feels that they should be placed in the State Treasury under the disposition of state authority rather than under county control and disposition.]

House Bill 553—Withdrawn.

Establishes a State Highway Department; provides for an inter-county-seat highway system; levies general state highway tax of 1 mill on the dollar; fixes motor vehicle license fees as follows:

$50—evidently a misprint in the bill for 50 cents per H.P. for automobiles and motorcycles.
$1 per H.P. for motor trucks.
$1 per ton or fraction thereof on the carrying capacity of each trailer with rubber tires.
$2 per ton or fraction thereof for trailers with other than rubber tires.
$50 per dealer for each make of motor vehicle sold.
Introduced by the Committee on Roads, Bridges and Ferries and recommended for passage.

[The MVCC disbelieves in the arbitrary selection of routes by the legislature without regard to the highway transportation needs of the state; furthermore, the schedule of fees provided in this bill is at variance with those advocated in the Proposed Uniform Vehicle Law.]

House Bill 680—Withdrawn.

Creates a State Highway Commission; establishes State Highway System, levies a State Highway Tax of 4 mills on each dollar of valuation; gives State Highway Engineer power to regulate traffic on State Highways as to weights of vehicles, etc.

Introduced by Miley, Jan. 16, 1920, and referred to Ways and Means Committee.

[The MVCC regards it as madvisable to give the State Highway Engineer power to prescribe the maximum sizes and weights of vehicles which may use State Highways. It feels that these limitations should be specifically set forth as in the Proposed Uniform Vehicle Law.]

House Bill 820—Passed House in Amended Form.

Makes it unlawful after January 1, 1921, "to sell or offer for sale, within the state of South Carolina any vehicle for use upon the public highways of this state other than the Standard tread of fifty-six (56) inches."

Introduced by Berry, Jan. 27, 1920, and referred to Judiciary Committee.

[The MVCC is opposed to the passage of this measure.]

House Bill 824.

Fixes motor vehicle license fees and provides that 10 per centum shall go to the state and the remaining 90 per centum to the counties where collected. The fees which are to be in lieu of all other state and county licenses are as follows:

$1 per H.P. on automobiles and motorcycles.
$2 per H.P. on motor trucks.
$2 per ton or fraction thereof of carrying capacity for rubber-tired trailers.
$4 per ton, etc., for trailers without rubber tires.
$50 per dealer for each make of motor vehicle sold.
Introduced by Owens, Jan. 28, 1920, and referred to Judiciary Committee.

[Since the fees of this bill are at variance with those set forth in the Proposed Uniform Vehicle Law the MVCC feels that they should not become law. In the same way it feels that the distribution of the bulk of the funds to the counties is a faulty principle.]

Senate Bill 77—Passed Senate in Amended Form.

Gives person injured in person or property lien on such vehicle for damages.

Introduced by Johnson and Pearce, Jan. 23, 1919, and referred to Committee on Judiciary.

[The Motor Vehicle Conference Committee feels that under the existing laws of the state an injured person is amply pro-

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tected and that further legislation along the line of this bill is undesirable.]

Senate Bill 125.

Provides for the selection by a Joint House and Senate Committee of routes for a 3,000-mile State Highway System.

Introduced by McCutcheon, Jan. 29, 1919, and reported without recommendation by Committee on Roads, Ferries and Bridges.

[The MVCC is opposed to the selection of routes by legislative fiat; it believes that this important matter should be based solely upon the highway transportation needs of the state.]

Senate Bill 171—Postponed.

Creates a State Highway Department; provides for a State Highway System; fixes annual motor vehicle license fees as follows:

$1 per H.P. for automobiles and motorcycles.
$2 per H.P. for motor trucks.
$10 for every trailer.
$50 per dealer for each make of vehicle sold.
Introduced by Christensen, Feb. 4, 1919, and reported without recommendation by Committee on Roads, Bridges and Ferries.

[Since these fees are at variance with those of the Proposed Uniform Vehicle Law the MVCC is opposed to their enactment into law.]

Senate Bill 197.

Fixes motor vehicle license fees and provides for their being used in State Highway System. Schedule of annual fees is as follows:

$1 per H.P. for automobiles and motorcycles.
$2 per H.P. for auto trucks.
$10 for each trailer.
$50 per dealer for each make of motor vehicle sold.
Introduced by Lightsey, Feb. 5, 1919, and reported without recommendation by Committee on Roads, Bridges and Ferries.

[These fees are at variance with those recommended in the Proposed Uniform Vehicle Law, so the MVCC is opposed to them.]

Senate Bill 199—Postponed.

Provides for $25,000,000 bond issue for State Highways to be carried and retired (1) by motor vehicle fees, (2) by State Highway Tax if fees are inadequate; fixes motor vehicle license fees as follows:

$1 per H.P. for automobiles and motorcycles.
$2 per H.P. for motor trucks.
$10 per trailer.
$50 per dealer for each make of motor vehicle.
Introduced by Christensen, Feb. 5, 1919, and reported without recommendation by Committee on Roads, Bridges and Ferries.

[The Motor Vehicle Conference Committee is opposed to the use of the motor vehicle fees for carrying and retiring highway bonds for reasons which have been given before. Moreover, the fees provided for in this bill are objectionable in so far as they do not conform with those recommended in the Proposed Uniform Vehicle Law.]

Senate Bill 268.

Provides for annual tax of $500 on manufacturers of motor vehicles transacting business in the state.

Introduced by Duncan, Feb. 5, 1919.
Withdrawn, Jan. 23, 1920.

[The MVCC is opposed to legislation of this character and is gratified at the withdrawal of the measure.]

Senate Bill 356—Postponed.

Establishes State Highway Department; provides for a State Highway System, authorizes State Highway Commission to regulate traffic weights; fixes motor vehicle license fees and disposition thereof, 25 per centum to state and 75 per centum to counties. Fees are as follows:

$1 per H.P. for automobiles and motorcycles.
$2 per H.P. for motor trucks.
$2 per ton carrying capacity for trailers with rubber tires.
$4 per ton carrying capacity for trailers without rubber tires.
$50 per dealer for each make of motor vehicle sold.
Introduced by Christensen, Feb. 12, 1919, and reported without recommendation by Committee on Roads, Bridges and Ferries.

[This measure is opposed by the Motor Vehicle Conference Committee on the grounds, first, that the regulation of traffic weights should be definitely fixed in the law and not be left to the varying and uncertain regulation of highway officials; second, the fees are not in accordance with those approved by the Proposed Uniform Vehicle Law; third, the disposition of the bulk of the fees among the counties is objectionable.]

Senate Bill 689—Recommitted.

Provides for election by General Assembly of a so-called "Traffic Commissioner"; requires single registration of operator at cost of $1; prescribes highway traffic regulations; limits width of motor vehicle with load to 90 inches.

Introduced by Bonham, Jan. 22, 1920.
Reported without recommendation by Committee on Judiciary.

[The Motor Vehicle Conference Committee regards 90 inches as an undue limitation of width and advocates the limit of 96 inches as advocated in the Proposed Uniform Vehicle Act.]

South Carolina

H. B. 820—Fifty-six (56) Inch Tread.

Prohibiting sale of any vehicle with other than standard tread of fifty-six (56) inches.
By Berry.
Killed in Senate, March 3, 1920.

H. B. 1093; S. B. 1264—Registration Fees.

Creates State Highway Department and imposes annual license fees after January 1, 1921, as follows:

a. Motor Vehicles—$6 on each motor vehicle weighing not over 2,000 pounds and $2 for each 500 pounds beyond 2,000 pounds.
b. Trucks—
$ 15.00 for 2 tons or less carrying capacity.
30.00 for 2 to 3 tons carrying capacity.
50.00 for 3 to 4 tons carrying capacity.
75.00 for 4 to 5 tons carrying capacity.
150.00 for 5 to 6 tons carrying capacity.
250.00 for 6 to 7 tons carrying capacity.
350.00 for 7 tons or over.

These fees are the result of amendments by the Senate. The original bill called for fees ranging from $10 to $1,000.

c. Trailers on Trucks—$5 for each trailer plus $2 for every 1,000 pounds or part thereof of ordinary loading capacity.
d. Motorcycles—$3.
e. Dealers—$25 for first make of motor vehicle handled and $15 for each additional make sold.

The measure forbids the transportation on State Highways of loads exceeding a specified tonnage or weight per square inch of bearing surface in excess of that prescribed in regulations laid down by the State Highway Commission, provided that special permits must be obtained to operate trucks of more than four tons. It also prohibits operation of vehicles whose overall width exceeds 90 inches.

House Bill 1093, by Atkinson, et al.
Passed House, Feb. 18, 1920, and became Senate Bill 1264, which was passed, March 4, 1920.

S. B. 582—Motor Vehicle Accidents.

Makes failure of operator to stop in case of accident and render assistance prima facie evidence of negligence in any suit against such operator.

By Young.
Passed Senate, Jan. 30, 1920.
Passed House, Feb. 16, 1920.

Virginia

H. B. 141—Confiscation of Motor Vehicles.

Amends present law so that "the ignorance of the owner or other person having an equity or interest in the vehicle, and team, automobile, boat, or other conveyance, of the illegal use thereof, shall be a complete defense against the forfeiture of his interest therein, but the presence of ardent spirits in such vehicle, automobile, boat, or other conveyance shall be prima facie evidence that the owner or such other person knew of the illegal use to which the property was put and the burden of proof shall rest upon such owner or other person to clearly prove his ignorance of such illegal use.

By Smith.
Passed House, Feb. 26, 1920; Senate, March 12, 1920.

H. B. 291—Speed Limits.

Regulates rates of speed at which vehicles may be operated on public highways.

Senate Bill 31.

Prescribes specifications for headlights; regulates use of "spot lights." Fixes duties of operators in case of injuring any person.

Introduced by Booker, Jan. 15, 1920, and referred to Committee on General Laws.

Senate Bill 49.

Provides for inspection of gasolene and imposes a charge of ¼ cent per gallon to establish a "Gasolene Fund" to defray cost thereof.

Senate Bills 71, 82, 166, 179, 193, 193, 220, 258, 263.

Prescribe routes for a State Highway System. These bills have all been referred to the Committee on Roads and Internal Navigation where they are now resting.

[As has been said in the case of similar measures for other states the Motor Vehicle Conference Committee believes that the selection of routes for a system of highways should be done scientifically, using such factors as population, industrial development, connections with the main highways of other states, traffic counts, etc., as the bases of selection. It believes that legislators are too prone to think only of the communities which they represent and of their constituents in selecting highway routes with consequent improper placement of main routes and enormous wastage of money.]

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Wood Wheels With Pneumatics

By CORNELIUS T. MYERS
Consulting Automotive Engineer

THE rapid development of the pneumatic tire for motor truck service has concentrated the attention of motor truck engineers and manufacturers on the study of various chassis parts effected by the change of tire equipment from solid to pneumatic. While the design of the entire motor truck chassis will ultimately be more or less affected by this change in tire equipment, such component parts as the wheels, and the axles with their drive and brake mechanism, are due for immediate attention. Wheels and rear axles in particular need to be redesigned to better fit the operating conditions with pneumatic tires.

The manufacture of wood wheels for motor trucks is a specialty carried on by some fifteen or more plants which carry large supplies of fine hard woods in stock, and which are equipped with special machinery for turning out this product. Practically all the wood wheels used in the motor truck industry are fabricated by these wood wheel manufacturing plants, having a total capitalization of about $35,000,000, and facilities for producing over 2,000,000 motor truck wheels per year.

MOTOR truck wheels have to withstand stresses from loads applied in three different ways:

(*a*) Stresses due to radial loads (static and shock), acting through the felloe and spokes to the axle hub, and approximately in the plane of the wheel.
(*b*) Stresses due to propulsion or retardation of the motor truck, acting tangentially to the felloe and in the plane of the wheel.
(*c*) Stresses due to side thrust or skidding, acting against the felloe and perpendicular to the plane of the wheel.

These stresses may exist separately and in various combinations. Long experience has confirmed suitable felloe and spoke sizes for motor trucks operating on solid tires. When the wheels are carefully made from properly seasoned wood we find that they will stand very heavy radial shocks and overloads mentioned under (*a*). Tests show that wood wheels have a factor of safety of 600 per centum to 1,000 per centum against such loads. As the motor truck springs and axles will not withstand any such overloads there is no danger of failure from radial loads. Road shock is absorbed both by the tire and by the spring, which greatly minimize the *impact or shock loads that are the chief concern of the motor truck designer.*

So far as the tangential stresses due to propulsion or retardation, mentioned under (*b*), are concerned, the average rear wheel will stand a great deal more than can be applied through the drive shaft or brake drum. These stresses are limited by the adherence of the tire to the road surface. The writer does not know of a single case of wheel failure due to tangential stresses, the wheel being automatically protected by this limitation of adherence. When wood wheels are placed in a testing machine, tangential loads can be increased until the hub or axle fails before any distress is noted in the wheel.

By reason of their general design, wheels, whether they be of wood or steel, are less able to withstand stresses due to the side thrust of the vehicle, as mentioned under (*c*), than the radial or tangential loads (*a*) and (*b*). These side stresses, or skid loads, are then the critical ones to be considered in wheel design. It would not be difficult to build wood wheels that are much stronger in this respect than those in common use on motor trucks to-day, were this considered essential or desirable. So far as solid tired motor trucks are concerned the proportions in which well-made wood wheels are designed give eminently satisfactory service, many claims to the contrary, notwithstanding.

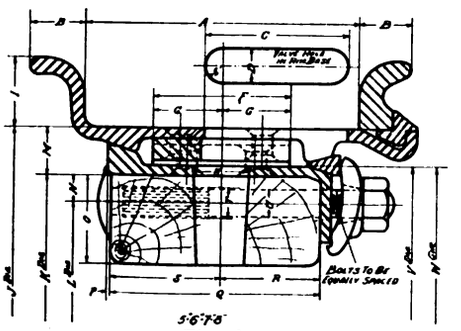

Fig. A.

So far as wheels for pneumatic-tired motor trucks are concerned, the problem is, if anything, simpler than on the solid-tired machine, as road shocks are better cushioned by the pneumatic tire. This also applies to the side thrusts on the wheels, due to turning and to bouncing over rough roads. There is one condition, however, under which the side thrust on the wheel might be as great with pneumatic tires as with solid tires, and it might even be greater, due to the greater speed at which the pneumatic-tired motor trucks will operate. This is the shock load when the machine skids and the wheel rim strikes the curb; although motor trucks seem to skid less with pneumatic tires than with solid tires.

This shock will be transmitted to the wheel bearings, the axle housing and shaft, the springs, the spring hangers, frame and other parts, if not cushioned in some way. The tires, of course, do not absorb the terrific blow against the rim, neither will the springs be available for absorbing it, as they are designed to flex under a vertical impact, and do not cushion the side blow. Against these blows, then, the wheel must protect the other parts which are more expensive and more difficult to replace; and it is through this function of protection that the wood wheel has served to the very great advantage of the automobile and motor truck industry.

Wood wheels act in two ways to protect an automobile of motor truck. *In the first place*, they are more or less flexible. They give under the dangerous side blows and act as springs to dissipate to a large extent these shocks, which must otherwise be taken metal to metal by bearings, axle shafts and housing, springs, hangers and frame. When placed in testing machines, wood wheels, under side loads within their elastic limit, show deflections 100 per centum to 200 per centum greater than well-designed, hollow-spoke cast-metal wheels. The tabulation below gives figures obtained by the Bureau of Standards, covering tests of rear wheels for a 3½-ton motor truck. The wheels are mounted on axles which were rigidly held while the load was applied to the side of the felloe.

Rear Wheel of 3½-ton Truck for 36 by 10 Tire.

Deflections in Inches Under Side Load.

REAR WHEEL OF 3½-TON TRUCK FOR 36 BY 10 TIRE.

Deflections in inches under side load.			
Load in pounds against felloe	5,000	10,000	15,000
Wood wheel No. 1	.095	.190	.290
Hollow spoke cast steel wheel No. 13	.030	.060	.090
Hollow spoke cast steel wheel No. 15	.040	.080	.120
Hollow spoke cast steel wheel No. 17	.050	.100	.150

These tests show that the wood wheel had from 1.9 to 3.2 times the amount of flexibility or springiness of the cast metal wheels—a very important consideration in the protection of other classic parts.

IN the second place, the wood wheel stands in the same relation to the other chassis parts as the fuse plug stands to the wiring and apparatus in an electric circuit, or as a cylinder-head stud stands in the cylinder and its parts in a locomotive. It will break under the excessive side load due to a bad skid, and in so doing, saves the other parts which are much more expensive and difficult to repair. For the wood wheel is comparatively cheap and quite easy to replace. No one would think of wiring his house or factory and omit blow-out fuses; nor would any master mechanic accept a locomotive in which the cylinder-head studs were so strong that they would not be the first piece to break in case a slug of water were carried into the steam cylinder and caught between the advancing piston and the cylinder-head.

The two principles just mentioned—that of the cushioning of impact, and the use of an easily replaced weaker link for the protection of the principal mechanism, are universally recognized and practiced. The general public, however, has not appreciated how wood wheels have served them in these respects, though much wear on bearings has been averted and many a big repair bill has been avoided by the fact that an inexpensive wood wheel gradually gave way, and in so doing absorbed the energy of a blow that

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would otherwise have caused for greater damage. Not only this, but in passenger car service, the comparatively slow breaking wood wheel has often interposed to change a capsize, with possible fatalities, into a minor accident. There has been a tendency on the part of the industry, when annoyed by wheel failures, to look for an indestructible wheel, disregarding for the moment the indispensable service which has been and is being rendered by the wood wheel in fulfilling the functions outlined above.

In buying wood wheels there are several things that are well worthy of attention on the part of the motor truck manufacturer. Contrary to popular opinion, his choice of hard woods to be used need not be limited to white oak and hickory. He can with safety also use for

Spokes—Red oak, white ash, and rock elm in all sizes; and hard maple and birch in sizes 2 inches and larger.

Felloes—Hard maple, red oak, white ash, rock elm and birch, all sizes.

if these woods are carefully selected, properly seasoned and kiln dried. For that matter, white oak and hickory must also be carefully conditioned to give satisfactory service. These woods have somewhat varying characteristics which must be allowed for in the conditioning process. Buyers should be particular to satisfy themselves that their sources of supply give due attention to this, just as they satisfy themselves on the heat treating, forging, or similar methods by sources of supply for steel products. Motor truck engineers and manufacturers have not given as much attention to this as they have given to metal processes, especially the heat-treating or conditioning of steel. As a matter of fact, wood wheels have been so very satisfactory until the war temporarily upset the lumber market, that the motor truck engineer or manufacturer has not concerned himself much with the matter. Investigation and cooperation will handsomely pay both the manufacturer and the wheel maker.

Wood for wheels is kiln dried until it contains 5 per centum to 7 per centum of moisture, based on what is known as the oven-dry weight of wood. It is then fabricated into wheels, precautions being taken that the wood is not unduly exposed to moisture until the wheel has been properly protected against it. When the motor truck manufacturer receives the wheels they should at once be given a coat of good paint, so as to further protect them against the absorption of moisture until the wheel is assembled in the motor truck chassis. After the road test and before shipment the motor truck manufacturer should again paint the wheels. When improperly protected wheels are shipped and stored exposed to moist atmosphere, they will absorb moisture up to about 15 per centum, and the wood will swell. If later it is stored in a heated room or used in a very dry climate it will lose some of the moisture, shrink and become loose. Proper oiling and filling by the wheel maker, and at least two coats of *good paint* put on before the motor truck goes into service are essential to the life of the wheel *and must not be overlooked*. When, in addition, the motor truck owner gives the wheels their finishing coats of color paint and varnish, they are then protected so as to give satisfactory service.

As to dimensions. The felloe sizes are determined by the pneumatic tire rims. These rims have been standardized as per *Table 1*, the wood felloe sizes being given in columns *O. Q. R, S* of *Tables 1* and *1-A*. The spoke sizes must be chosen in connection with the felloe size, and must be heavy enough to carry the rated load of the pneumatic tire with a reasonable margin for overloads. This margin need not be as great as for wheels to take solid tires, for the pneumatic tire has a very small overload capacity and will not give good service if overloaded. This will tend to check the overloading evil where pneumatic tires are used. *Table 2* gives the absolute maximum loads for the various tire sections as adopted in May, 1920, by the Tire and Rim Association of the United States. It also shows the rated load capacity of wheel on which the tires would be used.

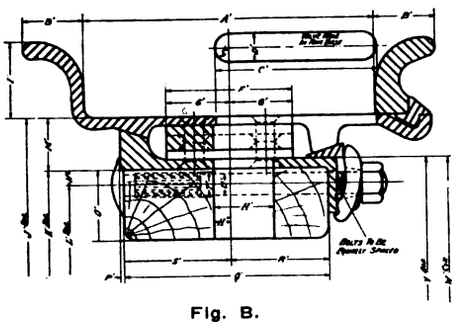

Fig. B.

TABLE NO. 1.

Size	34x5.	36x6.	38x7.	40x8.
A	3.750"	4.330"	5.00"	6.00"
B	.780"	1.00"	1.00"	1.25"
C	1-13/16"	2-5/16"	2-5/8"	3-1/4"
D	5/8"	5/8"	5/8"	5/8"
E	5/16"	5/16"	5/16"	5/16"
F	1-1/2"	1-7/8"	2-1/2"	2-7/8"
G	3/4"	15/16"	1-1/4"	1-7/16"
Dia. H	1"	1"	1"	1"
I	1.062"	1.265"	1.265"	1.500"
Dia. J	24"	24"	24"	24"
Dia. K	22-3/8"	22-1/4"	22-1/4"	22"
Dia. L	21-5/8"	21-1/4"	21-1/8"	21-1/8"
M	13/16"	7/8"	7/8"	1"
N	1/2"	9/16"	9/16"	7/16"
O	1-5/8"	1-5/8"	1-5/8"	1-5/8"
P	1/16"	1/16"	1/16"	1/16"
Q	2-1/2"	3-3/16"	3-27/32"	4-3/16"
R	1-5/32"	1-1/2"	1-53/64"	2"
S	1-11/32"	1-11/16"	2-1/64"	2-3/16"
T	17/32"	17/32"	17/32"	17/32"
U	1/2"	1/2"	1/2"	1/2"
Dia. V	22-11/16"	22-5/8"	22-5/8"	22-5/8"
Cir. W	71-9/32"	71-5/64"	71-5/64"	70-9/32"
X	2-1/2"	2-1/2"	2-1/2"	2-1/2"
Y	3/8"	3/8"	3/8"	7/16"
Z	8-11/64"	6-9/16"	6-9/64"	6-31/64
No. bolts	8	10	10	10

Dimensions refer to rim and felloe cross-section, Fig. A.

TABLE NO. 1-A.

Size.	42x9.	44x10.
A'	6.670"	7.330"
B'	1.370"	1.500"
C'	3-11/16"	4-1/16"
D'	5/8"	5/8"
E'	5/16"	5/16"
F'	2-7/8"	3-1/4"
G'	1-7/16"	1-5/8"
H'	1-3/8"	1-3/8"
H''	3/8"	3/8"
I'	1.750"	2.000"
Dia. J'	24"	24"
Dia. K'	21-9/16"	21-5/16"
Dia. L'	20-7/8"	20-5/8"
M'	1-7/32	1-11/32"
N'	11/32"	11/32"
O'	1-5/8"	1-5/8"
P'	1/16"	1/16"
Q'	4-11/16"	5-3/16"
R'	2-1/4"	2-1/2"
S'	2-7/16"	2-11/16"
T'	17/32"	17/32"
U'	1/2"	1/2"
Dia. V'	22"	21-3/4"
Cir. W'	69-7/64"	68-21/64"
X'	3"	3"
Y'	9/16"	5/8"
Z'	6-29/64"	6-3/8"
No. of bolts	10	10

Dimensions refer to rim and felloe cross-section, Fig. B.

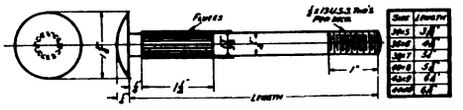

Fig. C.

In designing hubs for wood wheels the following points must be taken into consideration:

1. The radial load rating of the spokes.
2. Number of spokes.
3. Thickness of spokes between flanges.
4. Spoke barrel section.
5. Length of spoke between hub bore and outside diameter of flange.
6. Minimum hub bore permitted by standard spoke billet.
7. Maximum diameter of flange permitted by standard spoke billet.
8. Number and diameter of flange bolts.
9. Location of hub bolts.
10. Fit of hub in wheel bore.

There is no particular reason why a wheel for pneumatic tires should have the same number of spokes as a wheel for solid tires, except that it might take the same number of hub flange bolts. There are good reasons why fewer spokes can be properly used for pneumatic-tired wheels.

(*a*) There is less overload to contend with.
(*b*) The felloe diameter is smaller for same tonnage rating of truck because of the increased thickness of tire. This makes a shorter and stronger spoke.
(*c*) With the smaller diameter of felloe fewer spokes can be used without unduly increasing the distance between the outer ends of adjacent spokes. This preserves to the whel its radial flexibility.
(*d*) There is more room between the spokes for the tire valve air connection.
(*e*) The wheels are better looking.
(*f*) The wheels are lighter in weight.
(*g*) The wheels are easier to paint.

Table No. 2 gives recommendations for items *1, 2, 3,* and *4*.

In designing hubs and flanges care should be taken that item 5, which equals half the difference between the flange diameter and the hub bore in the wheel, should be from 15 per centum to 30 per centum greater in length than the thickness of the spoke between the flanges, item *3*. This insures the flanges a good grip on the spokes.

The minimum bore of the wheel (or the outside diameter of the hub where the ends of the spokes rest on it), and the maximum flange diameter are limits determined by the amount of material available in the standard spoke billet from which the particular spoke is made. *Table No. 3* for given spoke thickness gives the minimum hub size and the maximum flange size.

TABLE NO. 2.

Tire size.	Abs. max. load per tire in lbs.*	Inflation press. in lbs.	Spokes. No.	Spokes. Thickness.	Spokes. Barrel section.	Wheel load capacity in lbs.
34x4½	1,200	75	12	1½"	1½x1½	1,500
34x5	1,700	80	12	1¾"	1¾x1¾	2,000
36x6	2,200	90	12	2"	2 x2	2,500
38x7	3,000	100	12	2¼"	2¼x2	3,400
40x8	4,000	110	12	2½"	2½x2	4,400
42x9	5,000	120	12	2¾"	2¾x2	5,300
44x10	6,000	130	12	3"	3 x2	6,250

*Cord tires for commercial vehicles.

The fit of the hub bore of the wheel over the hub should be neither a hard press fit nor a loose one. It can be from a line and line fit to .020 inch loose fit. Wheels are seriously damaged when the bores are too small and the hubs are forced into them. This will often loosen the spokes at the mitre by forcing the spoke shoulder into the felloe; for it will force the end of the spoke tenon against the felloeband and seriously strain or split the spoke.

Dish of spokes is advisable for front wheels on account of the camber of the axle spindle, length of spoke, and side thrust in turning. The amount of dish should be about 2 degrees.

TABLE NO. 3.

Tire size.	Spoke thickness.	No. spokes.	Min. bore for hubs.	Max. flange diam.	Hub No.	Bolts. size.	Spoke symbol No.
34x4½	1½"	12	2½	9	6	7/16"	1425-12
34x5	1¾"	12	2½	9	12	7/16"	1626-12
36x6	2"	12	3	9½	12	7/16"	2026-12
38x7	2¼"	12	3	10½	12	7/16"	2230-12
40x8	2½"	12	3	10½	12	½"	2430-12
42x9	2¾"	12	4	11½	12	½"	2632-12
44x10	3"	12	3	11½	12	⅝"	3032-12

Note: Minimum bore and maximum flange diameters are controlled by standard rough spoke billets.

In the development of the motor truck industry the number of front and rear axle designs has become quite a large one. Each motor truck manufacturer which built its own axles used individual judgment and preference as to wheel hub details for each size and type of axle. Manufacturers of axles for the motor truck trade have also followed individual preference as to these details, to a very large extent. In reviewing the situation to-day we find that it takes

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upward of 250 different wheels to cover the field of all the various axle hub designs and sizes for motor trucks having a total of ten load capacities, ranging from ¾-ton to 7½-ton. This covers wheels for solid-tire equipment with the exception of those for the ¾-ton capacity motor truck. While it is quite natural that this condition should exist, due to the fact that the various designers of axle hubs worked independently of one another, and to the fact that the manufacturer of wood wheels obligingly conformed to all design variations, it is a condition that the motor truck industry can hardly view with complacency.

Now that practically all sizes of motor trucks are being equipped with pneumatic tires, it will mean nearly a 50 per centum increase in the number of different wheels already in use. Standardization of hub design cannot fail to be of as great service as was the standardization of felloes and tire bands, for there are just as many hubs used as tire bands and rims. The discussion and data set forth herein are given in the hope that they may be of assistance to the industry in this respect.

What Owner Expects

(Continued from page 26.)

ed responsibility, an incentive, in the way of increased pay over what the teamsters used to get, must be offered in order to attract men capable of taking over this responsibility and handling it without loss to the owner.

The chauffeur has a far greater responsibility than any teamster ever had. He is given a piece of machinery to operate that represents a large investment. You may have to write this motor truck off the books anywhere from 1½ to 6 or 8 years, depending greatly upon the treatment the machine receives at the hands of the chauffeur. If the chauffeur does not pay close attention to the oiling and burns up the crank-shaft and connecting-rod bearings, scores the pistons and cylinders so that we have to replace them, he becomes an extremely expensive chauffeur, although he may not be receiving any more money than teamsters used to.

We have had, over a period of several weeks, an average of 6 engines a week burned up because somebody forgot to put in oil or water. If these motor trucks had been operated by experienced chauffeurs or men that had had the training that an engineer on a locomotive receives, we would not have had the expense of overhauling these engines. Why not educate the owner as to the cost of improper handling of motor truck by the chauffeur, to whom he is turning over this large investment? Why not educate the owner on the cost of accidents?

We read of motor trucks running so many miles. We read advertisements about enormous mileage some fleets cover. We go over to see what kind of a mileage recording instrument they use and we find none. Somebody tells us how close he can estimate mileage. We make a test and find that he can guess within 25 to 40 per centum of correct mileage. If I should tell you how many instruments we use per motor truck in order to get approximate mileage you would hardly believe it. Why not develop a more substantial fool-proof mileage-recording instrument? I believe you will get more credit for the work a motor truck does than you are getting now.

One of the first questions that I have to ask a salesman when he comes in is, "Who are you with to-day?" The salesmen seem to change frequently, but they always tell you the same story apparently regardless of what machine they are trying to sell. The motor truck they have just left is never as good as the one they are now trying to sell.

Some salesmen come in and ask you what it costs you to deliver with your power wagons. A few days later they come back and show you a lower cost per hundredweight that they claim wou could obtain if you used the motor truck they are now selling. I have never been able to give these salesmen a figure so low that they would not come back with a still lower figure.

The idea of the manufacturer to sell a motor truck adapted to the local conditions rather than to sell one of a definite capacity seems to us to be a big step in the right direction. However, it offers many opportunities for the unscrupulous salesman. A prospect may be contemplating purchasing a 2½-ton machine and there will be the question of price. The unscrupulous salesman might sell what this firm used to sell as a 1½-ton in order to make a sale on basis of price.

I HAVE had salesmen ask me to compare the size of the frame on their 1½-ton, to the size of the frame on his competitor's 2½- to 3-ton motor truck and ask why not buy his because judging from the size of the frame it was just as strong as his competitors and costs a whole lot less.

Many chauffeurs are investing their savings in motor trucks and renting them for a figure ridiculously low, and overloading. At many places we are renting motor trucks from these fellows because we can not operate our power wagons as cheaply as we can rent them. We feel that here is an opportunity for the manufacturer to do a wonderful lot of good in the way of educational work.

Many service stations are rendering valuable service by conducting schools for chauffeurs.

If we were installing motor trucks in a town in which, say five machines were represented, and if they were in our opinion equally good for us to purchase and four of them were handled through dealers we would usually purchase the motor truck sold through the branch.

Dealers do not have as staple and substantial a business policy of operating as does the manufacturer. A dealer may sell this motor truck this year and a different line next year, depending on which make will apparently give him the greatest immediate financial returns. He apparently does not do business as if he were building for a greater future. He works on the policy of the customer be damned. The policy of the dealer is different from the manufacturer making the motor truck. I have seen but few manufacturers who controlled the policy of the dealer. We believe that all manufacturers can take lessons from Henry Ford when it comes to dealer control and the question of standard prices for parts and repair work.

We like to deal with the manufacturer who prints a list of parts and prices in a given zone and sends out printed changes in prices from time to time. You do not appreciate this unless you compare the prices charged for the same part in the same state on practically the same date. We find dealers organizing in cities and deciding to tack on all kinds of fancy charges while you can drive 30 miles and buy the same part for 40 per centum less. I do not have just one isolated case in mind when I make the statement.

YOU buy a motor truck and are left to the wolves figuratively speaking, when it comes to buying parts, if you are dealing with any other than a factory branch or unless you are dealing with somebody who is controlled by the factory the same as Henry Ford controls his licensed dealers.

A few manufacturers will tell you the cost of the total parts that are required to make a chassis. From all figures that we have been able to obtain up to date it looks as though a chassis purchased in parts would cost all the way from 10 per centum more than the cost of the original chassis up to five times the cost of the original chassis. You know when the farmer used to have to pay $125 for a reaper, the International Harvester Company was frank about admitting that it would cost $1,000 to buy the machine in parts, and the only difference between the reaper and the automobile, as far as I can see, is that most manufacturers apparently do not want to give the owner any information along this line.

The question has been asked, "What responsibilities do we assume when we put on motor trucks?" Some owners think they assume an enormous liability because a motor truck costs from 1½ to 3 times its original purchase price to operate a year. We owe it to the public to conserve our resources by efficient operation. The owner is not conserving his investment because he was sold a machine and given the wrong impression regarding its operation.

Let the salesmen and engineer coöperate with the service department for the purpose of enabling the manufacturer to sell trucking servic and coöperation. Every owner desires to operate his motor trucks upon an efficient financial business basis. The owner desires to assist the manufacturer in doing constructive educational work necessary to offset the destructive propaganda of the salesman and to operate motor trucks at the maximum efficiency. The educational problem can only be solved by the whole-hearted coöperation of all concerned.

Preyer Follows Coghlan in Middle West.

Walter P. Caghlan, general sales manager, American Hammered Piston Ring Company of Baltimore, Maryland, who up to last November was secretary and sales manager of the Klaxton Company, of Newark, New Jersey, has just announced the appointment of D. T. Preyer as district sales manager for the Middle-west district, including Michigan, Indiana, Kentucky, Illinois and Wisconsin.

"Roads of Remembrance" is a new type of highway planned in various parts of the country. The scheme involved is planting memorial trees along the roads for men in the service as a national honor roll.

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Profitable Side Line For Salesmen

Salesmen who call upon dealers, fleet owners, transportation managers, factory engineers, garages, parts and accessory makers—all who are actively interested in the sale, application, production, equipment or repair of motor trucks — can make from $5.00 to $10.00 a day by exhibiting and explaining the use of a well advertised article which almost sells at sight.

A ten-minute talk will effect a sale.

Commissions only, payable immediately or upon completion of transaction. Sample will be furnished free.

Address W. B.
Care THE POWER WAGON
544 Lake Shore Drive
Chicago, Ill.

All replies to this advertisement will be treated in strict confidence. Applicants must state their present trade connection.

Please mention "Power Wagon" when writing to advertisers.

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Leadership in Industry In Advertising

By GEORGE D. WILCOX

Director of Sales and Advertising, Commerce Motor Car Company

WITHOUT any specific attention being paid to it, being nothing else than an offshoot of the passenger car industry that for a time was, and still is, trailing in the passenger car industry footsteps, 1920 will see many changes for the better in the fast-growing motorized transportation industry—motor trucks.

Despite the fact that all manufacturers of good-selling motor trucks are far in arrears in making delivery of their product, there is nothing to indicate that this condition will not continue for a number of years to come.

The high cost of living is helpful to the passenger car industry, for high wages have made motor car owners of persons who never before expected to own a motor car. Being the owner of a motor car, there is a large number who see advantages in deriving their living from motorized transportation and are purchasing motor trucks. This is giving the manufacturer an outlet for his product that he did not look for. The natural demand for motor trucks, the fact that a business depression would only increase motor truck sales and the ever so many other reasons why the motor truck industry now in its infancy has prosperity ahead of it, makes this industry a factor that must be reckoned with in more ways than one.

The motor truck manufacturer has in no wise touched the advertising strides that the passenger car manufacturer in the same year-old period maintained, but motor truck manufacturers are, irregardless of the amount of orders they have on their books, at the factory going after advertising strong. Pioneers in the industry who have been conservative in their advertising appropriations, even when they needed business, are to-day either advertising in a large way or making plans to do despite the fact that they may be over thousands of orders behind in delivery.

Dodge, White and Reo, three quantity producers of motor trucks in the industry, have always been large, consistent advertisers. Commerce, a ten-year-old concern, has within one year, on a conservative advertising campaign, brought itself leadership in the 1- to 2-ton capacity field by advertising and plans include a big increase in future advertising appropriation. There is but one motor truck concern that sells a large number of motor trucks that does not advertise, but it is able to force its product to dealers on so many motor trucks with so many passenger cars. Even among manufacturers who are not quantity producers there are good advertisers and they plan increases. Those who know production costs wonder many times why some manufacturers who have small productions can do the volume of advertising they do. They give it up as a bad case of analyzing, dismissing it by the deduction that the manufacturer charges some of it up to good-will and future profits.

The motor truck manufacturer, realizing that he has a business clientele to deal with, knows that he must do even more advertising than the passenger car manufacturer. It is easier to sell a man a motor car for pleasure than for business, even if the business venture is going to make him money.

One Point of View

(Continued from page 33.)

to his honest statements, finally secures the entire equipment order of the buyer.

For a more intimate knowledge by the salesman of what constitutes a more complete interest by the user in the possibilities of the motor truck in comparison with either a horse wagon or another make of motor truck which may have been giving dissatisfaction in its operation, he should know, as, for example, the weaknesses that are shown by the unsatisfactory equipment.

What these weaknesses are will constitute the reason for the discontent and pave the way towards establishing an interest.

As a matter of economy in operation of any vehicular equipment the first point is that of reduction in maintenance expense. If that can be shown through the substitution by motor-driven wagons, the game is nearly won.

Transportation of goods depends upon the haulage in some manner. In the attempt of motor truck makers to induce horse wagon users to change, they find that the first objection to meet is the initial cost of the motor truck. This is the natural attitude to be taken by the buyer who has only had the established custom as a guide, and who has never needed (so he believed) to study expertly the costs of his horse-drawn haulage.

If the salesman can interest the buyer in his proposition it will be through the channel of upkeep. The spreading of the installation cost of a gasolene motor truck, limited to 7 to 8 years in hard service, at say, $3,600 for the average tonnage cost, brought down to a monthly charge would approximate $37.50, showing at once its relatively secondary place for consideration by the buyer.

Four or five years ago the users of motor trucks, having little to guide them, followed an amateur method of recording the cost of maintenance. No doubt to-day through the aid of some concerns that had practical engineering talent, the users generally know just how to figure their costs and are aware of the particular items that are the vital ones to keep in closest touch with.

The salesman of to-day, therefore, will be confronted by users who understand the mechanical side equally as well as the seller. It may not be the fault of the latter, as the user having the advantage of practical opportunities through daily experiences obtains expert knowledge. He knows the importance of economy in gasolene which for the past few years has gradually deteriorated, in its lack of active vaporization and its increased carbonization. Being an intelligent user, he has employed an expert carbureter adjuster, whose daily work is to meet and correct adverse conditions due to the inferior quality of fuel.

Because of this condition many users, "saving at the spigot," have attempted this work through incompetent employes, resulting in doing harm and throwing the plan into some discredit. The salesman is in error who joins in any adverse criticism of it. What he should do is to endorse it and use it as an argument for the prolonging of the motor truck's life.

As in all inventions, the improvements have usually come from the practical experience of the user of the device, whatever it may be, and it is the clever salesman who obtains all information that particularly relates to weaknesses in design or construction, as the eradication of such brings the ultimate success to the maker who takes advantage of such knowledge.

This is seemingly illustrated in the old design of carrying the engine parts directly over the front axle, which experience taught was far from economical to the user. It destroys the resiliency of action for a part that needs it more than any other. It limits the durability of the motor and its related parts. It is awkward to get at for quick repairs and the only argument in its favor is its shorter length chassis in garaging over the design carrying the motor in front of the axle. The theoretical designing engineer, of course, thinks he knows better and nothing can swerve him from it but his transfer to other fields of creation.

The expert user, however, knows what his expensive experience has recorded and he also knows how prone his drivers are to overload their motor trucks, with the result of cracked frames, broken springs, etc., as well as injury to the goods carried. Possibly this tendency is found more largely in transportation business on account of the separation of the traffic department from the garage—the former desires dispatch primarily—the latter is interested in keeping repair expenses as low as possible primarily. When such expenses are charged up to the former the drivers are naturally held in check as much as is possible and still follow the schedule.

The matter of precise figures to cover each item of maintenance expense will differ invariably with every motor truck user and it is not to be otherwise expected. If the best accounting methods are followed that have been evolved by large users, it is then up to the individual how efficiently he will act.

No matter how well a motor truck is constructed, the daily service on all sorts of road conditions will cause vibration, wearing and motor troubles. This means that in order to place that motor truck back in the same service again the following day in the same mechanical condition there is only one method to adopt, and that is daily inspection of all parts that the inspector knows requires it, with the quick repairs necessary.

Besides keeping the unit intact, this rule results in postponing the inevitable overhaul from what, through incompetent care would force it in 6 months to that of 18 months, as well as prolonging the life of the motor truck by 100 per cent. The salesman that influences towards such a plan is the man who obtains repeat orders for his people's product.

The established service station installed in large cities by motor truck dealers is well enough in its determination, but they remind one of hospitals for our fellow-creatures. They are there well equipped for rendering assistance to all requiring it, which in the case of the hospital is hard to improve, as human beings are left to their own devices and preventives to avoid that resort. In the case of the service station it does well in repairing what has come for that service, but that act is treating the effect.

If the promoters of this service could lend a hand in directing to the avoidance of the cause, the user would be more benefited. No doubt the income from the service station would be reduced, which naturally would not be pleasing to those interested in its success.

This does not mean that no motor truck maker interests himself in the plan of reducing the causal expense, as it is well known that he does. The idea is suggested simply for standardization of the plan, as it would bring the seller in closer touch with the troubles that begin in a small way—that look minor, but are major—and are the fingers that point the way to improvements in manufacture.

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Cared-for Trucks Save Thousands

Entrants in Recent Packard Efficiency Contest, Which Closed February 29, Make Remarkable Records and Win $17,000, in Prizes for Intelligent Operation

REMARKABLE demonstrations of the saving which owners of motor trucks can make through intelligent application to their business of the National Standard Truck Cost System was developed by the prize-winning motor trucks throughout the United States in the recent Efficiency Contest held by the Packard Motor Car Company. This contest, which closed on February 29, is the first of the kind to cover an entire year and offers a far more satisfactory basis of information than any previous motor truck tests.

Hundreds of power wagons all over the United States took part in the contest. Packard spent $17,640 in prizes and thousands more in gathering the mass of records. These records have not yet been completely digested, but those already available show that savings on individual machines earn as high as $3,206.14 for the year. Efficiency in many cases was increased more than 25 per centum and there are indications that the average shown by the motor trucks which competed was almost another 25 per centum above that of the average motor truck in this country.

In the Chicago district $1,000 was distributed in prizes to the drivers of the winning machines, while almost as much more went to the shipping clerks who routed the deliveries and to the accountants who kept the records.

A CLASS D motor truck operated by Mandel Brothers, Chicago, carried away the second prize against contestants from all over the United States. This machine, delivering package goods, through carrying an increased number of packages per load showed a saving of $1,241.02 for the year. The last six months of the test showed an increase of 11 per centum in gasolene efficiency as compared with the first six months, making a saving for this item alone of 103.87, with gasolene at 30 cents a gallon. The repair costs, including complete overhauling of the motor truck in June and on a mileage of about 11,000 ran to 5.7 cents a mile.

The fourth prize in this class was also given to Mandel Brothers with a machine which in the tenth year of its service ran over 11,000 miles at a cost for repairs of only 0.58 cent a mile.

In Class B the second prize was taken by a motor truck operated by Boyd & Lunham. This machine increased its efficiency in the use of gasolene, running 8.8 per centum more miles per gallon in the second half of the year than in the first. Its year's record was 21 per centum above the average in gasolene efficiency for this capacity of motor truck. The loading time was reduced 12 per centum and the ton-mile cost shows a saving of 2.2 cents for each ton carried one mile. Repairs on this power wagon during the year were 1.8 cent per mile for something over 21,000 miles.

First prize in Class F was won in Baltimore against competition from all parts of the country by a motor truck operated by the Crown Cork & Seal Company, which took prizes of $500 for the driver, $250 for the shipping clerk whose routing of the freight helped greatly toward success, and $125 to the accountant. This machine showed a reduction of 2.8 per centum in the cost of handling a ton of freight a mile, which on its year's work resulted in a saving of $1,784.26. Its driver succeeded in getting 40 per cent more mileage per gallon of gasolene than the average for motor trucks of this capacity in the test, a saving which was worth $400.80. He even succeeded in increasing his own efficiency so that the record for the last six months of the test was 6.4 per centum better than for the first six months.

THE fourth prize in the C Class motor trucks went to the W. F. Zeller Company and brought $200 to the driver, $80 to the shipping clerk and $50 to the accountant. Gasolene efficiency on this machine was increased 51 per centum, showing a saving of $406.50, loading time was reduced 33 per centum, and the repair cost was only two-thirds of one cent a mile, although this motor truck has gone more than 21,000 miles without an overhaul.

In Class E the Southern Pacific Transfer Company, of Los Angeles, was among the prize winners. Their motor truck worked 358 days with a repair cost of only 0.54 cent a mile for 24,000 miles of service. Its average miles per gallon was 32 per centum above that of other motor trucks in that class, being a saving of $602.40. In addition as a result of the experience gained during the test, gasolene efficiency in the last six months was 20 per centum higher than in the first six, showing a saving of $264.

The E. K. Wood Lumber Company at San Pedro took fifth prize in Class D with a machine which has been in constant service seven years and has more than 100,000 miles to its credit. This veteran ran 19,807 miles during the year at a repair cost which is under 3 cents a mile. Efficient loading reduced the loading time by 60 per centum and experience gained during the test resulted in a saving of 7.8 per centum in gasolene in the last six months of the test as compared to the first six months.

All four of the winning power wagons in Milwaukee were operated by the R. A. Johnston Company and they took second, third, fourth and fifth prizes in Class A, being used for light package delivery. A few of the savings effected are shown in the following record:

The motor truck winning the second prize carried 166,238 packages during the year at a cost of less than 3 cents a package.

The winner of the third prize increased gasolene efficiency 31 per cent, showing an actual saving to the company of $414 if gasolene is figured at 30 cents a gallon.

The winner of the fourth prize increased gasolene efficiency 8.7 per centum, reduced its loading time over 6 per centum, and during the year carried 111,845 packages at a cost of slightly over 4 cents per package.

The winner of the fifth prize carried 170,403 packages at a cost below 3 cents per package.

All four of the motor trucks which won prices in the Philadelphia district were in the big Packard fleet operated by the Hershey Chocolate Company at Hershey, Pennsylvania.

The largest motor truck which took a prize in the Philadelphia district was in Class E, in which it took the second prize. This machine was worked 353 days during the year at a ton-mile cost which was 64 per centum below the average for the machines of its class. The gasolene efficiency was 6 per centum above the average and the repair cost, including a thorough overhaul, amounted to 8.2 cents per mile.

IN Class D a Hershey motor truck operated at Lebanon, Pennsylvania, took the first prize. This machine ran 24 per centum above the average in gasolene efficiency which was a saving worth $354.68 with gasolene at 30 cents a gallon. The loading time was reduced 31 per centum and the cost of handling a ton of freight a mile was reduced 5.4 cents, resulting in an actual saving of $2,450.62. The repair cost of 4 cents a mile covered an overhaul during February after a yearly run of about 20,000 miles.

Another motor truck at Hershey, Pennsylvania, took the first prize in Class C. This showed a gasolene efficiency at 40 per cent above the average in its class, amounting to a saving of $637.30 in gasolene alone. The repair cost was 2.6 cents on a year's run of 23,729 miles. This motor truck worked 330 days during the year.

In the same class the fifth prize went to a Hershey power wagon at Florin, Pennsylvania, which showed a gain in gasolene efficiency during the year of $591.30. The year's average miles per gallon was 30 per centum above the average of other motor trucks of this capacity in the test. The loading time was reduced 48 per centum. There was a saving in ton-mile cost of 0.4 cent which was worth $635.04. This machine worked 362 days and ran 14,700 miles at a repair cost of 1.2 cent per mile.

Toronto produced two splendid examples. These motor trucks, one operated by the William Neilson Company and the other by the Lake of the Woods Milling Company, stand out among the hundreds of motor trucks in the contest for the impressive demonstration of increased efficiency which is possible to scientific handling.

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A Lake of the Woods Milling Company's power wagon won the first prize in Class B. The machine had already been operating so efficiently that the saving over its previous record could not be remarkable, although it is important. The saving of gasolent during the year amounted to $51 for the last six months as against the first six. The loading efficiency was increased to such an extent that there was a reduction of 4.2 cents a mile, resulting in an actual saving of $366.24. The repair cost on this motor truck for the year was only 2 cents a mile in spite of the fact that it had already given 19,024 miles of service without an overhaul.

The William Neilson Company motor truck was in Class F, rating something like 5-tons capacity, and took the second prize in its class. This machine was 27 per centum above the average of others in the class in its gasolene efficiency and by this saved $132.60. During the test the loading time for this machine was reduced 46 per centum. As a result of better loading and other factors, the gallon-mile cost was reduced 0.7 cents, which on the basis of 723,788 gallon-miles of performance for the motor truck would be equal to a saving of $5,066.51. Prizes for the men who handled this machine in the contest were $400 to the driver, $175 to the shipping clerk, and $100 to the accountant.

IN the Detroit district $1,100 was distributed in prizes to the drivers of the winning motor trucks, while almost as much more went to the shipping clerks and to the accountants.

The first prize for Class G motor trucks went to John Heybeer. This machine showed a gasolene efficiency 41 per centum higher than the average, amounting to a saving of $1,227 with gas at 30 cents a gallon. Increased daily mileage and heavier loading decreased the ton-mile cost by 0.9 cent, effecting a saving of $1,156.48. This motor truck worked 358 days during the year and had a repair cost of 2.4 cents a mile and a tire cost of 1.4 cent.

The fifth prize in G Class was won by Bryant & Detwiler. The motor truck worked 3,676 hours during the year and lost only four hours for repair in that period. Its total repair cost was 2.6 cents per mile. On the year's average, this driver got 13 per centum more miles to the gallon than the average for this class of motor truck, which was worth $170.10, and he increased his own efficiency in the use of gasolene by 8 per centum, which shows a further saving of $98.10. Efficient loading reduced the cost of handling freight 1.5 cent per ton-mile, which on the year's work amounted to $663.

In Class A the first prize went to a motor truck operated by the Packard Motor Car Company itself, and the company therefore awarded another first prize which went to the Harfield Electric Company, of Indianapolis. The Packard machine was operated in Detroit for 309 days and traveled over 11,000 miles at a repair cost of less than 0.1 cent per mile. This motor truck increased its fuel efficiency 15 per centum during the period of the test and averaged 50 per centum above the other cars of its class in the number of miles run per gallon. The saving on this was $380.70. Loading time was reduced 33 per centum and more efficient loading reduced the ton-mile cost to 5.2 cents.

The largest of the motor trucks to win in the New York district was that of the Warner Chemical Company at Carteret, New Jersey, which took second prize in Class G. This machine, through better loading, was able to show a reduction in ton-mile cost of 2.3 cents, which was worth $1,345.41 for the year.

IN gasolene alone, the experience gained in the test permitted a saving of 14 per centum in the last six months as compared to the first six, although weather conditions were more favorable during the earlier period. This at 30 cents a gallon was worth $134.40 on the whole year's record. The motor truck showed a gasolene efficiency of 33.8 per centum over the general average of other machines of its class in the contest. This was worth $419.40 to the owner.

This motor truck ran at a repair cost of 0.6 cent per mile and of tires at 3.9 cents a mile.

The New York district took the third, fourth and fifth prizes in the next largest group, Class F. The third prize here went to the motor truck operated by the George O. Jenkins Company at Bridgewater. This machine through increased loading efficiency brought a saving of 1.8 cent a ton-mile, which on the basis of the 79,774.7 ton-miles of freight handled, was worth $1,435.94. The loading time was reduced 22 per centum and the gas efficiency, which was 35 per centum above the average for this capacity of motor truck, made a saving of $560.70. The repair cost was 3 cents a mile.

The fourth and fifth prizes in this class were taken by the Seco Transportation Company at Newark. The first of these motor trucks reduced its loading time 43 per centum, showed a gasolene efficiency which was 47 per centum above the average, which was worth $1,575.60, and increased its gasolene efficiency 13 per centum during the period of the test, bringing about a saving of $270.60.

The other machine reduced its loading time 7 per centum, effected a saving in gasolene efficiency of 37 per centum above the average, which was worth $934.80, reduced its ton-mile cost 1.8 cents and carried 154,008 ton-miles of freight, making its saving $2,772.14.

The Raritan Transfer Company, at Raritan, New Jersey, took the third prize in Class E. This motor truck has the largest saving of any of the prize winners. Increased loading efficiency reduced the ton-mile cost by 6.5 cents, which was worth $3,206.14. It was 20 per centum above the average in gasolene efficiency, which was worth $213.13, and operated 304 days during the year, covering about 14,700 miles at a repair cost of 1.6 cent a mile.

The fourth prize in this class went to a motor truck operated by the Marlin-Rockwell Company, arms manufacturers, at New Haven. Their savings were as follows: 28 per centum increase in gasolene efficiency, worth $307.50; gasolene efficiency 26 per centum above the average, which was worth $276; and increased daily mileage which reduced their ton-mile cost to show a saving of $265.92. The repair cost for a year was 0.4 cents a mile for 14,262 miles.

Sisser Brothers, at Sommerville, New Jersey, took third prize in the Class D contest. This was another of the motor trucks which showed an enormous saving, increasing loading and gasolene efficiency and reducing ton-mile cost by 5.6 cents, saving $2,625.43. The loading time was reduced 33 per centum, the gasolene economy was 42 per centum above the average, being worth $929.90, and the repair cost for 20,000 miles of service during the year was less than 0.4 cent a mile.

Davis Brothers, Incorporated, of New York City, won the third prize in Class B on a record of general average excellence. The gasolene mileage was 7.8 per centum above the average and repairs on the 11,033 miles run during the year were approximately 2 cents a mile, including a thorough overhaul.

THE last of the prizes in New York district went to the Loose-Wiles Biscuit Company at Jamaica, Long Island, also in Class B. This motor truck showed a saving of 24 per centum in the ton-mile cost, amounting to $1,193.62. The gasolene economy amounted to $183, and repairs, including a complete overhaul in August, were 2.9 cents per mile on a run of 17,136 miles.

The largest of the Boston district motor trucks to compete were those in Class G. In this class the third prize went to a machine operated by C. D. Farnsworth, of West Springfield, Massachusetts, and fourth prize to the Barrett Company, of Everett, Massachusetts.

The first of these, the Farnsworth machine, showed a decrease in ton-mile cost of 0.21 cent, which was worth $921.77. The repair cost for the 14,176 miles operated was 3.8 cents per mile and there were no expenditures for tires during the year.

William Skinner & Son, of Holyoke, Massachusetts, took the first prize in Class E with one of their motor trucks. The machine averaged 47 per centum better than the general run of contestants of this capacity in gasolene efficiency. This saving alone amounted to $1,014. Further, their motor truck showed a year's mileage of 24,074 with a repair cost of .7 cent a mile.

In Class C the second prize went to F. Diehl & Son, of Wellesley, Massachusetts. This motor truck's record is one of very high average excellence, but shows little gain over its previous excellent performance.

In Class B the fourth prize was taken by a motor truck owned by J. C. McLean, of Sommerville, Massachusetts, which showed a gain of 22 per centum in gasolene efficiency during the year and ran for the entire year at 15 per cent above the average gallon milage for that sized motor truck.

The Toledo winner was a Class C machine operated by the City Botany Works. This motor truck showed a saving for the year of $2,571.03. The loading time was reduced by 30 per cent as a result of greater efficiency gained during the test period and there was a reduction of 43 per centum in the cost of handling a ton of freight a mile. The repair cost per mile ran to only a little over 1 cent.

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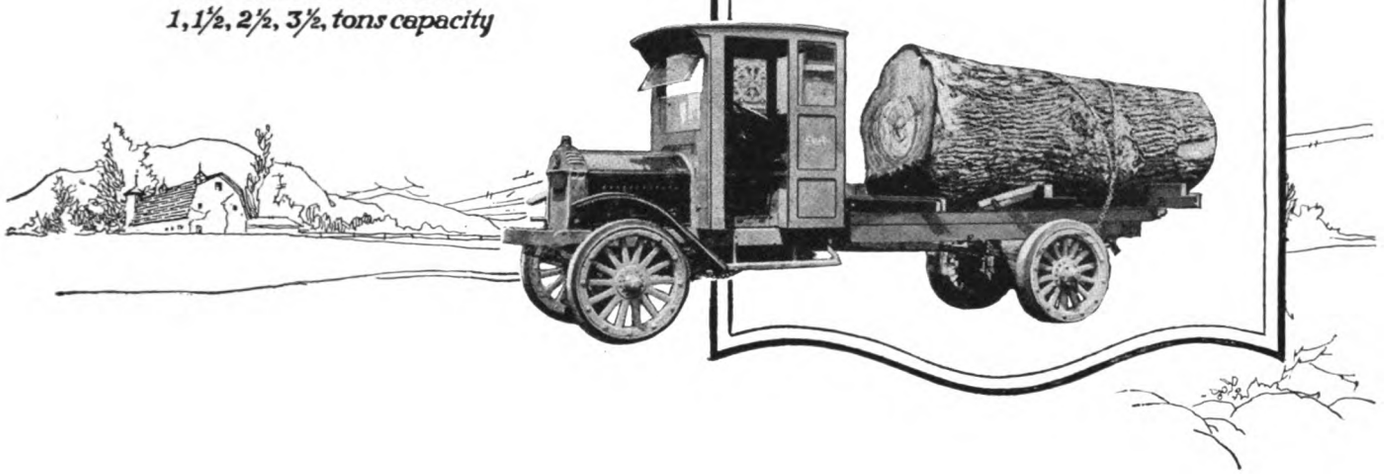
Dart

Worm Drive Trucks
1, 1½, 2½, 3½, tons capacity



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Nearly all trucks that have become famous for the service they give have adopted this drive because of its long life and efficiency—over 53% of *all* trucks built during 1919 were worm drive.

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As Makers View National Shows

Almost Without Exception Motor Truck Manufacturers Are Heartily in Accord with Decision of N. A. C. C. to Discontinue National Shows.

FOLLOWING the decisions of the Motor Truck Committee of the National Automobile Chamber of Commerce, in consultation with the National Association of Sales Managers, to discontinue the Chicago and New York motor truck shows, POWER WAGON asked the opinion of a number of leading motor truck makers. The more positive replies received to the questionnaire are given below in the form of *Letters to the Editor.*

Regrets N. A. C. C. Decision

To the Editor.—We certainly do regret the decision to discontinue the two National Motor Truck Shows for 1921. I know of no industry of any importance which does not, with some regularity, hold its exhibitions or shows. As far as the automobile industry is concerned we see no reason why a motor truck show is not of as much value to the public and manufacturer as a passenger car show. From the standpoint of benefit to the public the truck show is probably the more valuable of the two. We have no plan to suggest for conducting a show in view of the fact that a decision has already been made by the N. A. C. C. to eliminate truck shows for next year.

J. C. WILSON COMPANY,
Stanley C. Wilson, *General Manager.*
Detroit, Mich.

Shown Not Profitable

To the Editor.—From our experience, we are led to believe that the national motor truck shows are not profitable enough from a point of getting in touch with prospective distributers, dealers, and truck purchasers.

It is our idea that practical demonstration of motor trucks is a much more desirable way to bring them before the buying public. They can then be seen in operation by those interested as distributers, dealers and purchasers, and that is exactly what the prospect wants. We are sure that it will produce greater results at less cost than the old national motor truck show plan.

We are of the opinion that the demonstrations which are now being held throughout the country along with the close cooperation that they receive from distributers and dealers of all heavy-duty motor truck manufacturers is the plan to encourage, and we think it an exceedingly good idea in influencing prospects to a consideration of handling their hauling requirements by truck.

E. A. KIGHTLINGER,
Sales Manager, Indiana Truck Corporation.

Experience Not Satisfactory

To the Editor.—Our experience with national shows has not been very satisfactory. From the standpoint of an exclusive motor truck manufacturer, we do not believe the shows have the same value for motor trucks as they do for passenger cars.

We would hesitate upon entering national shows in the future and have no suggestion to make for a substitute at this time. It is possible that some other form of demonstration can be worked out that would be more satisfactory, and in which cars we would be interested.

INTERNATIONAL HARVESTER COMPANY OF AMERICA.
By C. E. Johnson.

Old Shows Not Successes

To the Editor.—I am fully in accord with the decision of the Motor Truck Committee of the N. A. C. C. to discontinue the national truck shows, and, as a member of the committee of the National Association of Motor Truck Sales Managers, had something to do with that decision, the majority of the sales managers feeling that the motor truck shows of the past had not been successful, and that if there were any shows or exhibitions of any kind to be conducted in the future, they should be upon a different basis. The old basis was illogical, in that it was simply an adaptation of passenger-car show methods, whereas there is no real similarity between the motor truck and the passenger car in regard to actual utility value.

At the present time, I am not in favor of even a practical demonstration of a national nature, but believe that sales managers of motor truck manufacturers can well take a year to study what kind of motor truck demonstration or exhibition would be of value, and when and where such demonstrations or exhibitions should take place. The plan suggested by George M. Graham, for a spectacular or theatrical presentation of the function of the motor truck, is the best one that I have heard of.

SERVICE MOTOR TRUCK CO.,
E. T. Herbig, *Sales Mgr.*
Wabash, Ind.

Acme Against Shows

To the Editor.—Our organization was in favor of giving up the two truck shows. We are inclined to think that the best method of demonstration is to coöperate in the shows which are more local in character because of the retail value. From the demonstration standpoint the best thing is to coöperate with the movements now under way by the two tire companies, Goodyear and Firestone. We see no reason for starting any other demonstration plan in addition to these. Our criticism of the old show plan is that it didn't get anywhere, there apparently being no city in which it was possible to secure satisfactory locations for the same week. As a consequence the motor truck manufacturers had to go into a location not desirable. We are consequently in favor of the idea of giving up the two national shows altogether.

ACME MOTOR TRUCK CO.,
C. J. Helme, *Sales Mgr.*
Cadillac, Mich.

Not Representative Body

To the Editor.—I do not think that the National Automobile Chamber of Commerce is the proper organization to control motor truck shows throughout the United States as it is not a representative body, never has been and, in my opinion, never will be. The activity it has shown or attempted to show in behalf of truck shows is, in my opinion, largely due to the formation of the National Truck Manufacturers' Association and, were this body to discontinue its operations, I feel satisfied that all interest now taken by the N. A. C. C. would come to a sudden end.

I believe that one or two national truck shows are desirable, but not from the standpoint of interesting the consumer, I think that such shows represent as good a means as any of bringing the latest development of the art to the attention of prospective truck distributers and, from that angle alone, are worth while. With this in mind, my idea of the proper show season would be about the first of the year, when most distributer's contracts are effected. Such shows should be staged in adequate quarters and not far removed from the business center of a city. The failure of both the New York and Chicago truck exhibitions was forecasted immediately upon the announcement of the N. A. C. C. as to where they would be held. It is out of the question to expect a distributor, or anyone else as a matter of fact, to journey from 10 to 15 miles away from his hotel.

The series of truck tours which have been conducted during the last three months seem to have awakened a great deal of discussion and it may be that something of value could be worked out from this idea but, as I have had no experience whatsoever in such tours, it is not proper for me to express an opinion thereon.

VICE-PRESIDENT.

Wants New Management

To the Editor.—Our opinion of the decision to discontinue the two national truck shows is this: By all means disassociate them from the guardianship assumed by those in the past, but that does not mean that we are against shows; as a matter of fact, we think them of vital importance to the industry. We have previously suggested that the handling of the motor truck shows at both New York and Chicago should be under the jurisdiction of the National Association of Motor Truck Sales Managers, or a committee of those, who are actively engaged in motor truck manufacture.

When an association takes it upon itself to distinguish between different types of vehicles, to the end that it would exhibit one half way between New York and Albany and the other within the arena of the Chicago Stock Yards, we do not hesitate to say that, in justice to both places, we might just as well have been on the Sahara Desert. It will eventually be that motor trucks will be shown by themselves at a time set apart from the passenger-car show.

We favor some kind of national demonstration, but it should not carry or permit accessories, that is, it should be primarily a motor truck demonstration, combining all units and not favoring any particular unit or tire manufacturer. This demonstration should be held throughout the United States about the latter part of August, when farmers and shippers are most heavily burdened in moving the various commodities of the country. We know of many public spirited men who are more or less affiliated with the motor industry and who would be only too pleased to render whatever assistance possible, and the National Association of Motor Truck Sales Managers could well afford to enlist their services and pay a goodly sum for the promotion and handling of suggested demonstrations. . . .

AVAILABLE TRUCK CO.,
William H. Nolan, *Sales Mgr.*
Chicago, Ill.

Pleased With Decision

To the Editor.—We are pleased, indeed, to know that the motor truck committee of the N. A. C. C. has decided to discontinue the national shows, as we have always felt that the benefits received from these shows were not in keeping with the necessary expenditure of time and money. We would not be adverse to some national demonstration of motor truck performances, but at this time have no suggestions to offer.

TRANSPORT TRUCK CO.,
F. D. Engle, *Sales Mgr.*
Mt. Pleasant, Mich.

Do Nobody Any Good

To the Editor.—We agree with the decision of the Motor Truck Committee of the N. A. C. C. to discontinue the two national truck shows. They ought to be discontinued. We do not think they ever do anybody any good, and they are a terrific expense. There were too many restrictions under the old show plan. They made it expensive for those who made trucks to show them, because the manufacturers also had to send men to handle them. The regulations were

(Continued on page 78)

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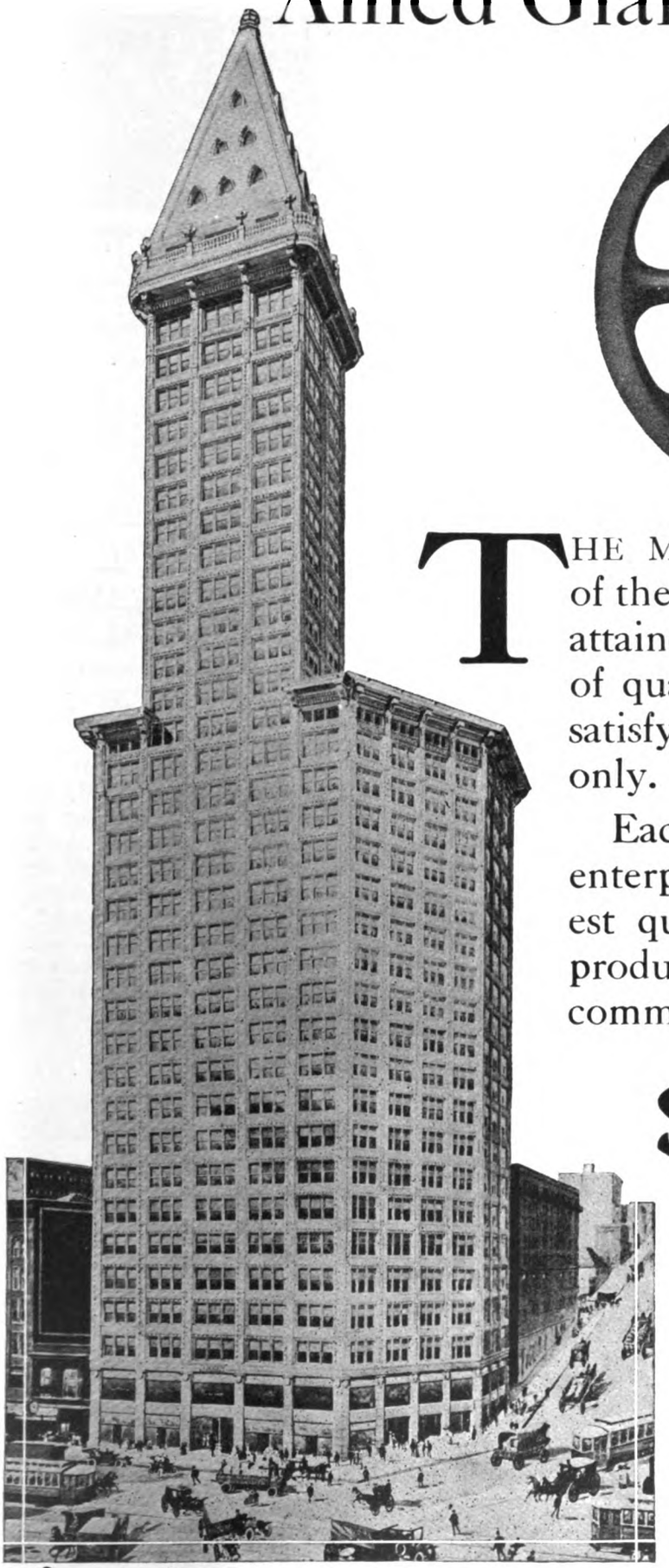
Allied Giants In Success



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decidedly unfair to companies which were not members of the organization.

We do not favor any practical demonstration, unless somebody can suggest something different from anything that has yet been proposed. We have made considerable investigation to see what happens with these practical demonstrations, and have not seen any good they have done to the manufacturer except that they have brought about a certain amount of general publicity. There are so many motor trucks in use that it is no trouble for any man in any line of business to investigate for himself to find whether the motor truck will fulfill the requirements of his business.

O. ARMLEDER CO.,
J. W. Beckman, *Asst. Gen. Sales Mgr.*
Cincinnati, O.

Depend on Truck Tours

To the Editor.—We are very well pleased with the decision of the Motor Truck Committee of the N. A. C. C. to discontinue the two national truck shows formerly held in Chicago and New York. Everyone knows that the past two shows were poorly attended and poorly located, and the fact that the motor truck is not a style proposition would, in our opinion, make it unnecessary to exhibit trucks as passenger-cars are exhibited from year to year. We believe the ship-by-truck tours are a great benefit to the motor truck industry, and are, in a measure, taking the place of the general truck shows formerly held.

PAIGE-DETROIT MOTOR CAR CO.,
C. S. Pike, *Vice-Pres. Truck Sales Dept.*
Detroit, Mich.

Is Wise Move

To the Editor.—The discontinuance of the two national motor truck shows is a wise move, because it eliminates a tremendous expenditure of time and money which, in my opinion, doesn't bring proportionate compensation to truck manufacturers. The mental attitude of factory men as a whole has changed our annual pilgrimages to New York and Chicago from business meetings to vacations. Furthermore, it isn't possible intelligently to discuss truck transportation with possible "prospects" under the conditions which exist at national shows, because there is neither the time nor the opportunity to go into the mater with sufficient attention to accomplish the desired purpose. Truck sales vary so materially in different localities I doubt if any national venture to stimulate truck sales will prove worth while, because it isn't possible to consider various local conditions with sufficient breadth of thought or handling to cover the needs of individual truck buyers properly.

My experience during the last eight or ten months in watching and participating in farm truck demonstrations has convinced me unqualifiedly that such local tours, handled by local dealers in their respective territories, are the most effective means of exploiting the truck and its diversified uses that have yet been found. My opinion is based on my having learned that in one locality the propaganda to further truck sales must be of a certain nature, handled in a certain way, and, while the fundamentals of this propaganda are the same in other territories, the details of their handling must be varied to comply with local conditions if the greatest possible benefit is to be found. In my opinion the local tours, which are being held in various parts of the country, are the best way to accomplish this need to cover local conditions.

OSHKOSH MOTOR TRUCK CO.,
Homer Hilton, *Sales Mgr.*
Oshkosh, Wis.

Common-sense Move

To the Editor.—I think the decision to discontinue the two national motor truck shows a very good common-sense thing. The main criticism is that the passenger-car show was the big "3-ring circus" and the motor truck exhibition the "side show." The show should never have taken place at the same time as the passenger-car show. I favor some national practical demonstration of motor truck performance, and I believe the fall of the year, around October 1, is the time for holding it, as demonstrations can be made at that time. The National Automobile Chamber of Commerce is the only organization in the country formed by manufacturers solely for the benefit of the motor truck industry, and it has plans under way for conducting this national exhibition and demonstration that will solve the problem completely.

UNITED STATES MOTOR TRUCK CO.,
F. J. Alvin, *Gen. Mgr.*
Cincinnati, O.

Heartily in Accord

To the Editor.—We are heartily in accord with the decision to discontinue national motor truck shows. The old show plan was a business promotion by one or two individuals for private gain. Good selling representation appears to me to be better than shows. People to-day are convinced that motor trucks can do the work. It is a matter of showing them in what way machines will cut down their costs before they can be convinced.

BESSEMER MOTOR TRUCK CO.,
I. M. Lewis, *Treas.*
Grove City, Pa.

Works No Hardship

To the Editor.—We believe that no hardship will be felt by manufacturers in the discontinuance of the national motor truck shows. Our criticism of the method of holding the shows during the past would not apply to other than the 1920 shows, which, we believe you will agree with us, were inefficient to a certain degree, partly because of their separation from the passenger-car exhibits and partly from the location of the shows themselves. We believe that some practical demonstration, national in its scope, which would be promoted in an impartial way would be advantageous for truck manufacturers as well as dealers and users. It would appear that such demonstrations should be held in different localities in order to reach the majority of prospective buyers, and it is our opinion that more good would be derived from them if they were confined to trucks sold in the different localities where they might be held. In other words, we believe that it would be unfair to prospective buyers if they were to become very much sold on a truck which was not represented in their immediate locality and on which no service could be got within a radius of 90 miles. We believe that May or the early part of June would be a suitable time for holding such demonstrations.

KALAMAZOO MOTORS CORP.,
H. G. Stiles, *Gen. Sales Mgr.*
Kalamazoo, Mich.

No Distinction

To the Editor.—Obviously we are not in favor of national truck shows. I believe, however, that the general public draws little distinction between national and local shows, and that is just the point wherein we do not believe in national shows. We think that the shows are local in every way and should be considered so. The present method of holding shows exclusively truck is vitally lacking in its ability to interest the majority of the people. It lacks some of the romance that is needed to popularize a show. If some practical demonstration plan can be worked out to display trucks it would probably be a fine thing, but those brought forward to date have been so tremendous in character that there is grave question of their practicability.

MANUFACTURER.
Detroit, Mich.

No Demonstrations

To the Editor.—We believe that the decision of the N. A. C. C. to discontinue the national truck shows was the most sensible move ever made. We do not favor a practical demonstration of national scope.

MACCAR MOTOR TRUCK CO.,
C. J. Sanderson, *Sales Mgr.*
Scranton, Pa.

Time and Place Unfavorable

To the Editor.—As members of the National Automobile Chamber of Commerce we are willing to abide by any decision which the Motor Truck Committee may make relative to the continuance or discontinuance of future national motor truck shows, believing they are well qualified to pass on this important matter. Personally we believe that national motor truck shows, when held under favorable conditions, will redound to the advantage of the motor truck industry in general, benefitting manufacturer, dealer and user. The trouble with shows in the past, as we see it, has been due to holding them either at an unfavorable time, in an unfavorable location, or both.

G. A. SCHACHT MOTOR TRUCK CO.,
Albert Staab, *Sales Mgr.*
Cincinnati, O.

Would Continue Shows

To the Editor.—We have had good success with our exhibits, not only at the national but at many of the state shows, and we should certainly favor continuing them. The only criticism we have to make is that as the shows are held in cold weather better provision should be made for heating the show buildings. Many were driven away from the shows on account of the cold. I think the better plan for demonstration of motor trucks is the small tours that are being made throughout the country. We have had wonderful success with some of these tours and have received great benefits.

WINTHER MOTOR TRUCK CO.,
Geo. Drake Smith, *Vice-Pres.*
Kenosha, Wis.

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The 250 to 300 H. P. must be made according to A. S. M. E. code for installation in Minnesota. All to be guaranteed for 160 lbs. working pressure. Give full description, including age, condition, where can be inspected and price F. O. B. cars. Address—Power Wagon, Box 28.

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Comet dealers have the great advantage of Comet adaptability. A 1 1-2 ton truck perfectly sized for varied work. Motor and chassis assembly balanced to prevent overstrain under load or racking when empty. Study that feature. And this: Immediate delivery, singly or in fleets, through Comet Dealers. Write in about it.

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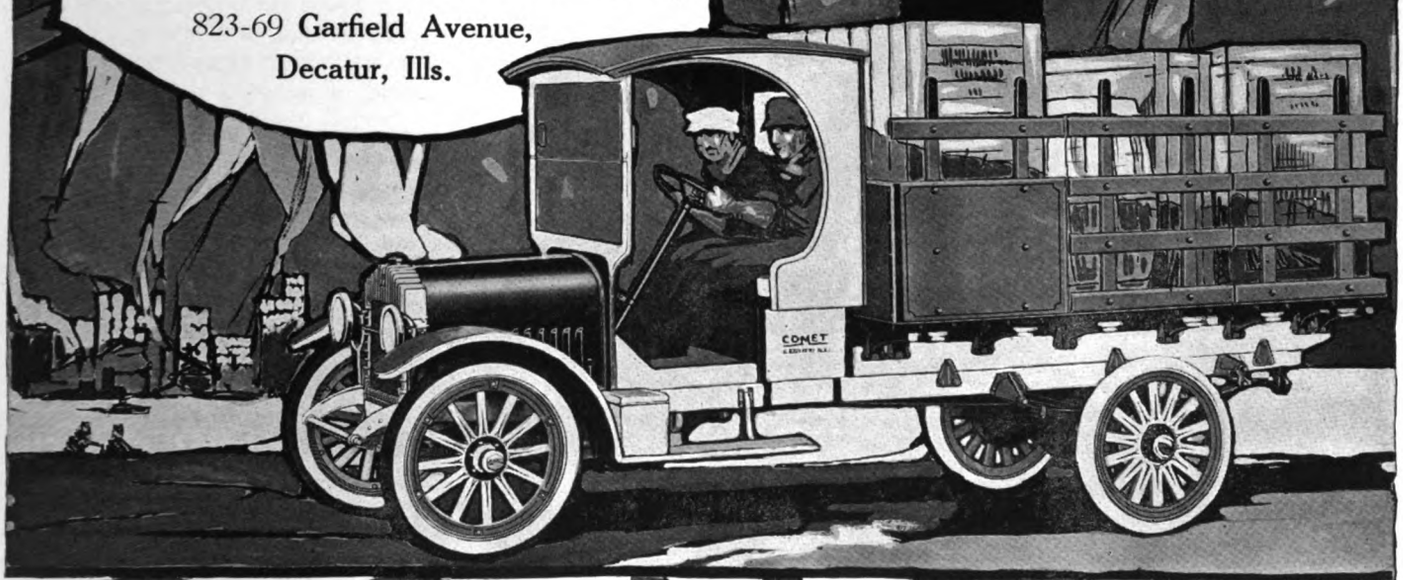

COMET

1½ TON

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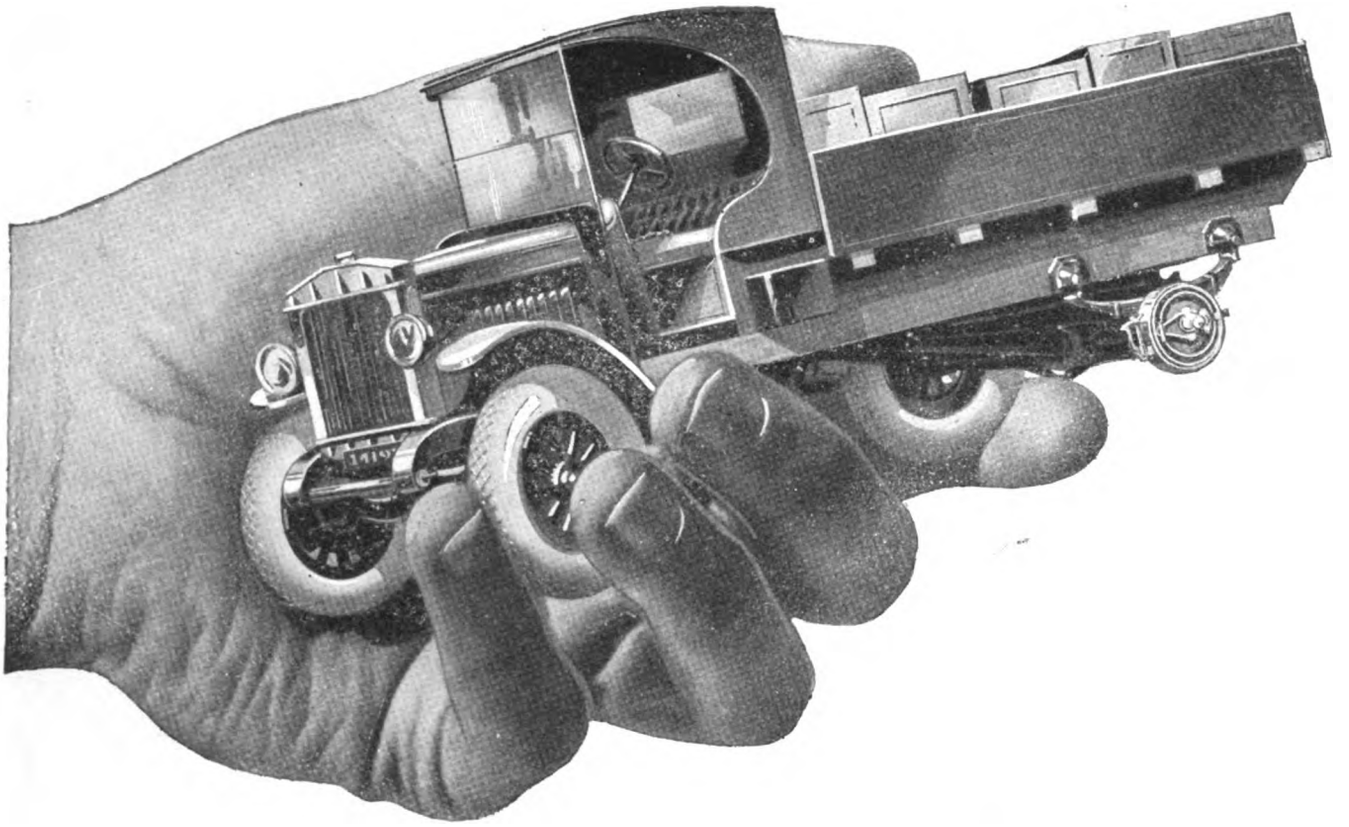

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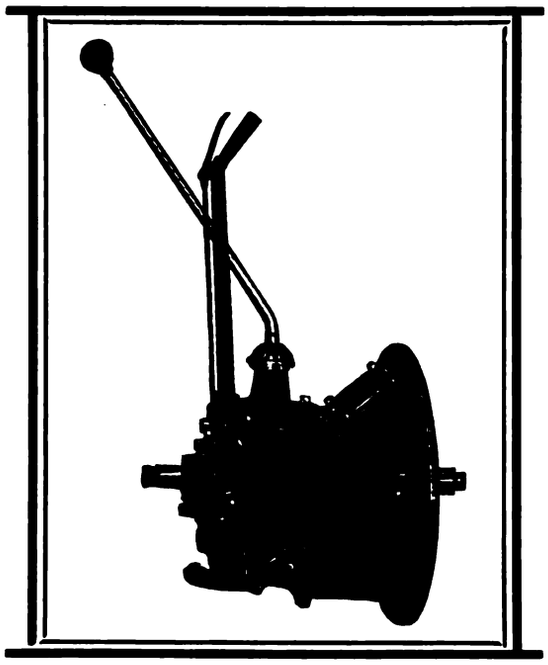

DURSTON TRANSMISSIONS

WITH our capacity doubled during the past few months, we are now in large production on transmissions suitable for trucks up to one-ton capacity or speed wagons.

Our present designs and production methods are the result of years of development. We are in a position to deliver transmissions that are *right* in every particular. Your inquiries are solicited.

DURSTON GEAR CORPORATION
SYRACUSE, N. Y.

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Equip Your Customers Before Fall
to Move Their Freight by Truck

Expert railway observers predict a very serious car shortage by next fall.

At this time of year, in pre-war days, the railways usually had a large surplus of cars on hand. Instead, however, reports now indicate a serious car shortage, requisitions for freight cars in the United States and Canada exceeding the available supply by over 60,000 cars.

What will the railways do when the peak of car demand comes, in October and November? It requires no prophet to see that much merchandise and grain that should be shipped will not be moved.

It is up to the truck dealer to warn shippers to equip themselves to move as much merchandise as possible this summer and next fall by motor truck, *and to equip themselves now to do so.*

Patriot Trucks are still available.

Patriot Motors Co., Manufacturers

1419 P Street Lincoln, Nebr.

REVERE MODEL
1500 to 2500 lbs. Capacity

LINCOLN MODEL
3000 to 5000 lbs. Capacity

Ship by PATRIOT

WASHINGTON MODEL
5000 to 7500 lbs. Capacity

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The Test that Proves Hardness and Toughness

AFTER heat-treatment each gear is given a Brinnell test in which a specially hardened steel ball is pressed by fixed hydraulic force against the gear. The resultant depression is then gauged, and must meet a fixed standard.

Only standard width of depression is allowed. A greater measurement would mean insufficient resistance to wear; a lesser one would indicate unnecessary hardening at the expense of toughness.

Twenty-five years' experience in gear making has taught the Brown-Lipe Gear and Brown-Lipe-Chapin companies what steels and treatments give best results in transmissions and differentials, and the conscientious application of this knowledge is one reason why their products are standard in the automobile world.

BROWN-LIPE GEAR CO. — TRANSMISSIONS

BROWN-LIPE-CHAPIN CO. — DIFFERENTIALS

Both at SYRACUSE, N. Y.

No. 13 of 40 Reasons for Superiority

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¾ - 1 - 1½ - 2

ALL WORM DRIVE

SPECIFICATIONS

Motor—Continental Red Seal in all.
Clutch and Transmission—Brown-Lipe.
Rear Axle—Timken and Sheldon worm and gear.
Carburetor—Zenith, with Stewart Vacuum system. Monarch Governor.
Ignition—Magneto.

Chassis Prices

Model R-11—¾ Ton	$1850
Model R- 9—1 Ton	2050
Model R- 6—1½ Ton	2150
Model R- 8—2 Ton	2650

IT isn't the big motor trucks that are the big thing today. Where any dealer can make the most money right now and from now on, he can easily see from the well known statistics that already as much as seventy-five per cent of the country's hauling is being done on trucks of two tons and under.

¾, 1, 1½, and 2 ton—these are the Rainier sizes. With units that need no explanation—such as Continental Motor, Brown-Lipe Clutch and Transmission, Timken and Sheldon Rear Axle. With records of service in practically every line of modern business that will put the finishing touch on any possible sale.

Get in where the sales are quick, often and on the climb. Get in where profits stay profits—not knocked to pieces by replacements. Get in with Rainier—if your territory is still open.

The Rainier is Built for Business by the Pioneers of the Motor Industry.

RAINIER MOTOR CORPORATION
Sales Department: 227 W. 58th St., New York, N. Y.
Factory: Flushing, Long Island, N. Y.

Rainier

TRADE MARK REG.

WORM DRIVE TRUCKS

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"The derrick broke, dropping the steel girder on the Warner Trailer"

WARNER MANUFACTURING CO.
Beloit, Wisconsin

February 9, 1920

Gentlemen:-

On February 7th, 1920, your representative furnished us a B-30 Warner Trailer 5½-ton capacity to be demonstrated to us for the purpose of convincing our firm that a Warner Trailer would solve a number of hauling problems.

Your 5½-ton pipe trailer coupled to a 4-wheel drive truck carrying a steel girder which was 42'6" long, weighing 24,200 lbs., to the new Federal Reserve Bank of Dallas, was being raised off the truck and trailer by a big steel derrick and while the girder was suspended in the air one and one-half feet above the truck and trailer, the derrick broke, dropping this girder on the Warner Trailer which equaled a dropping weight, of that distance, around 48,400 lbs. Mr. W. H. Boatman, driver of the truck states after the accident happened, that there was absolutely no damage done to the truck or trailer in any way and we wish to tell you that this certainly convinces our firm that the stability of the Warner Trailer is beyond our expectation.

It took exactly three quarters of an hour for loading and delivering this girder.

Yours very truly,

MOSHER MANUFACTURING CO.

FH-VC

per Ford Hicks

The above photograph illustrates an incident which is perhaps the most severe test to which any trailer has been put. The Warner Trailer sustained the shock of the steel girder falling on it, without being broken. This represented a dropping weight of *48,400 pounds.*

Read the accompanying letter and if you have a hauling problem let us show you how to cut your expense in half. There is a WARNER TRAILER for every purpose.

THE WARNER MANUFACTURING CO.
26 Main Street, Beloit, Wisconsin

WARNER
HEAVY DUTY
TRUCK TRAILERS
TWO AND FOUR WHEEL TYPES

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MR MARLIN-ROCKWELL INDUSTRIES MR

Undivided Control of Operations

FROM the making of the raw steel to the shipment of the finished product, undivided control of operations gives complete coördination of manufacture both as regards the quality and volume of production of

SRB

Single Row Double Row

ANNULAR BALL BEARINGS

The Braeburn Steel Mill, pioneer in tool steel products, with its immediately adjacent coal supply and its own gas wells, affords a source of Electric Furnace Bearing Steel equally reliable for highest attainable quality and constancy of supply.

Subsequent mechanical processes are balanced and coördinated up to the last operation, so that the many times multiplied demand for S. R. B. Bearings is being met with a production that would be impossible with facilities one degree less complete.

This expansion of manufacture is under conditions that assure full maintenance and even further refinement of the quality which has made S. R. B. Bearings standard equipment for those automobiles, trucks and tractors whose names are instantly thought of as leaders in their respective fields.

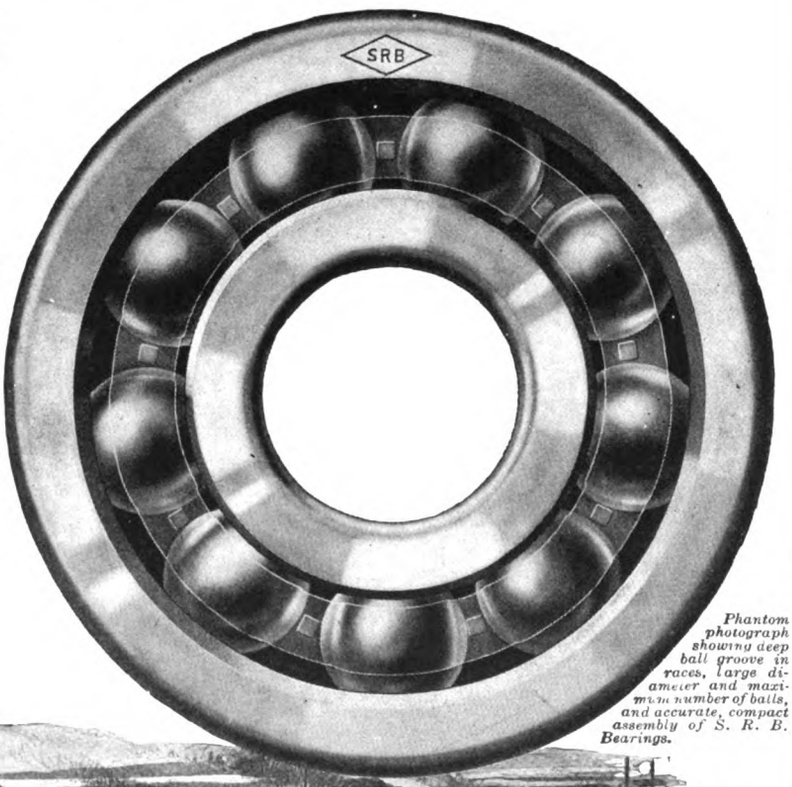
STANDARD
STEEL AND BEARINGS
Incorporated

Philadelphia — Standard Roller Bearing Co., Plainville, Conn.
Pittsburgh — Braeburn Steel Co., Norwich, Conn. / New Haven, Conn.

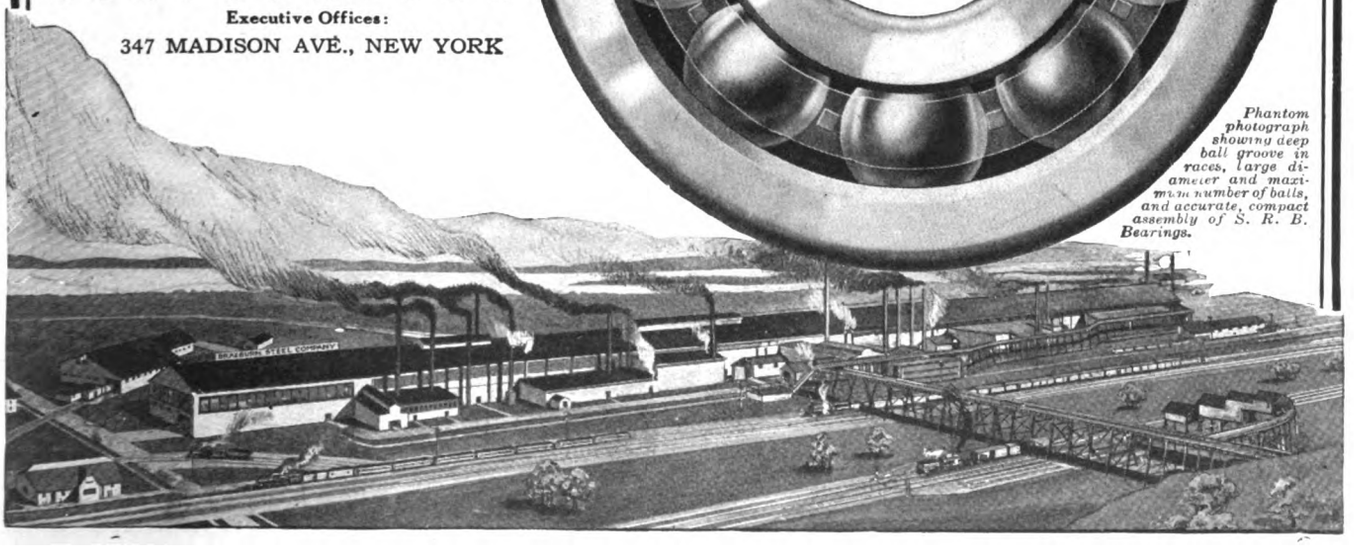
Standard Sales and Service Distributors in Principal Cities

Controlled and Operated by
MARLIN-ROCKWELL
CORPORATION

Executive Offices:
347 MADISON AVE., NEW YORK



Phantom photograph showing deep ball groove in races, large diameter and maximum number of balls, and accurate, compact assembly of S. R. B. Bearings.



Please mention "Power Wagon" when writing to advertisers.

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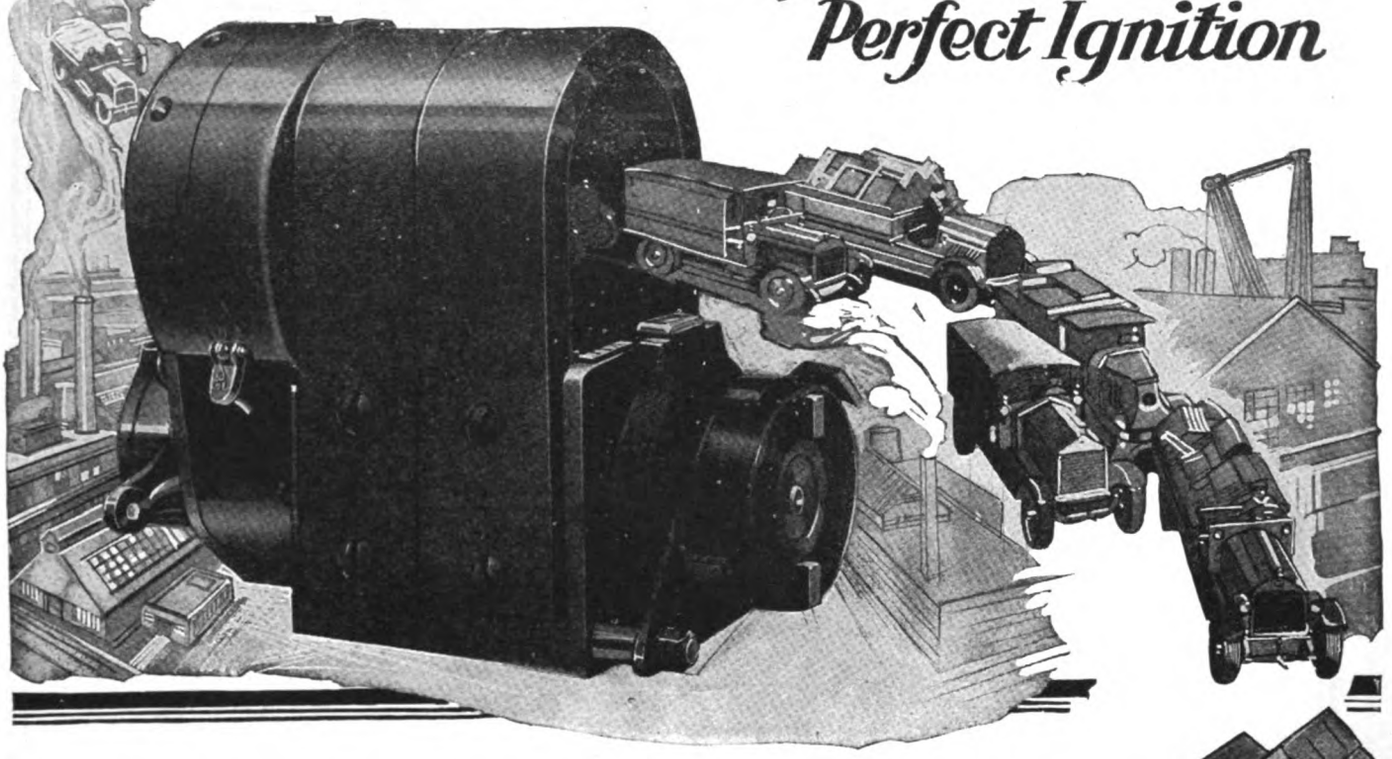
Thru the EISEMANN Magneto

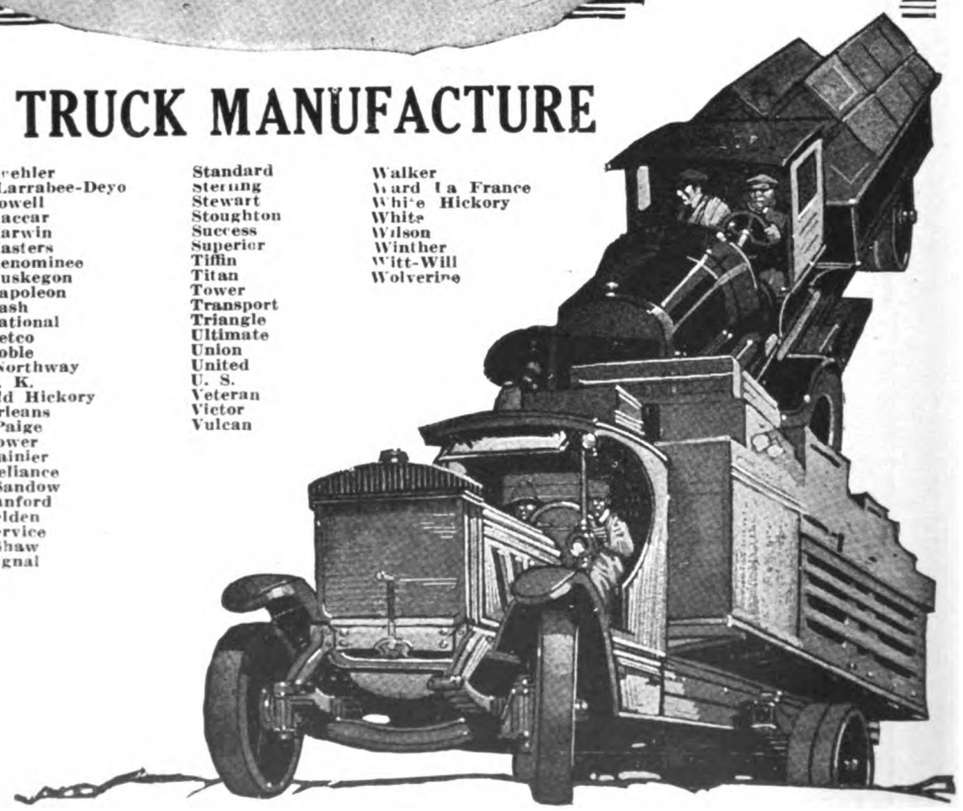
107 Truck Manufacturers Secure Perfect Ignition



"WHO'S WHO" IN TRUCK MANUFACTURE

Acason
*Ace
Acme
All-Power
American
American La France
Apex
Atco
Bell
Brockway
Burford
Capitol
Collier
Commerce
Concord
Corbit
Dart
D-E
Defiance
Denby
Detroit
Douglas
Dual
Duplex
Eagle
Famous
Federal
F. W. D.
*Garford
Gary
Giant
G. M. C.
Graham Brothers
Gramm-Bernstein
*Hahn
Hal-fur
Hall
Harvey
Hawkeye
Highway
Higrade
Huffman
Hurlburt
Independent
Indiana
Italia
Jackson
Jumbo
Keldon
Kelly
*Kimball
Kissel
Kirby
Knox
Krehler
*Larrabee-Deyo
Lowell
Macear
Marwin
Masters
Menominee
Muskegon
Napoleon
Nash
National
Netco
Noble
*Northway
O. K.
Old Hickory
Orleans
*Paige
Power
Rainier
Reliance
*Sandow
Sanford
Selden
Service
*Shaw
Signal
Standard
Sterling
Stewart
Stoughton
Success
Superior
Tiffin
Titan
Tower
Transport
Triangle
Ultimate
Union
United
U. S.
Veteran
Victor
Vulcan
Walker
Ward La France
White Hickory
White
Wilson
Winther
Witt-Will
Wolverine

*Optional



THE EISEMANN MAGNETO CORPORATION
BROOKLYN, N. Y.

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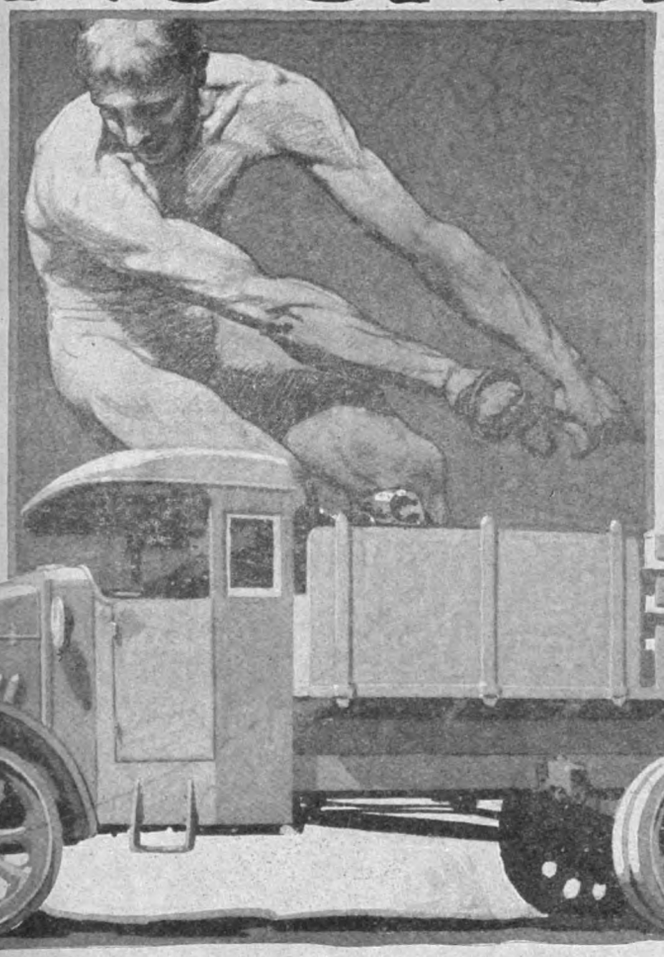
ANNOUNCING

POWER



LONG LIFE

Bethlehem Engineers and Bethlehem Workmen have balanced and combined Power, Strength and Long Life in the New Bethlehem Motor Trucks. Made in "Delivery Boy," 1½ ton, 2½ ton, 3½ ton chassis. Built to carry their owners' confidence.

BETHLEHEM MOTORS CORPORATION, Allentown, Pa.

The BIG NEW BETHLEHEM

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Dangerous - *but Mack did it!*

34 round trips daily, backing its load down a dangerous 15% grade and dumping into a 30 foot excavation, was a braking performance that could not be duplicated by any other truck in the contractor's fleet.

MACK service brakes are fifteen inches in diameter and three inches wide, operating on the driving sprocket. The emergency brakes are twenty inches in diameter and three and a half inches wide, the drums being bolted to every spoke of the rear wheels. Each set is amply air-cooled and hand adjustable.

Mack Engineering features combined with 18 basic *Mack* patents have developed the Motor Truck the world is talking about.

Capacities 1½ to 7½ tons. Tractors to 15 tons.

Full Information Upon Request

INTERNATIONAL MOTOR COMPANY, NEW YORK

Mack TRUCKS

"PERFORMANCE COUNTS"

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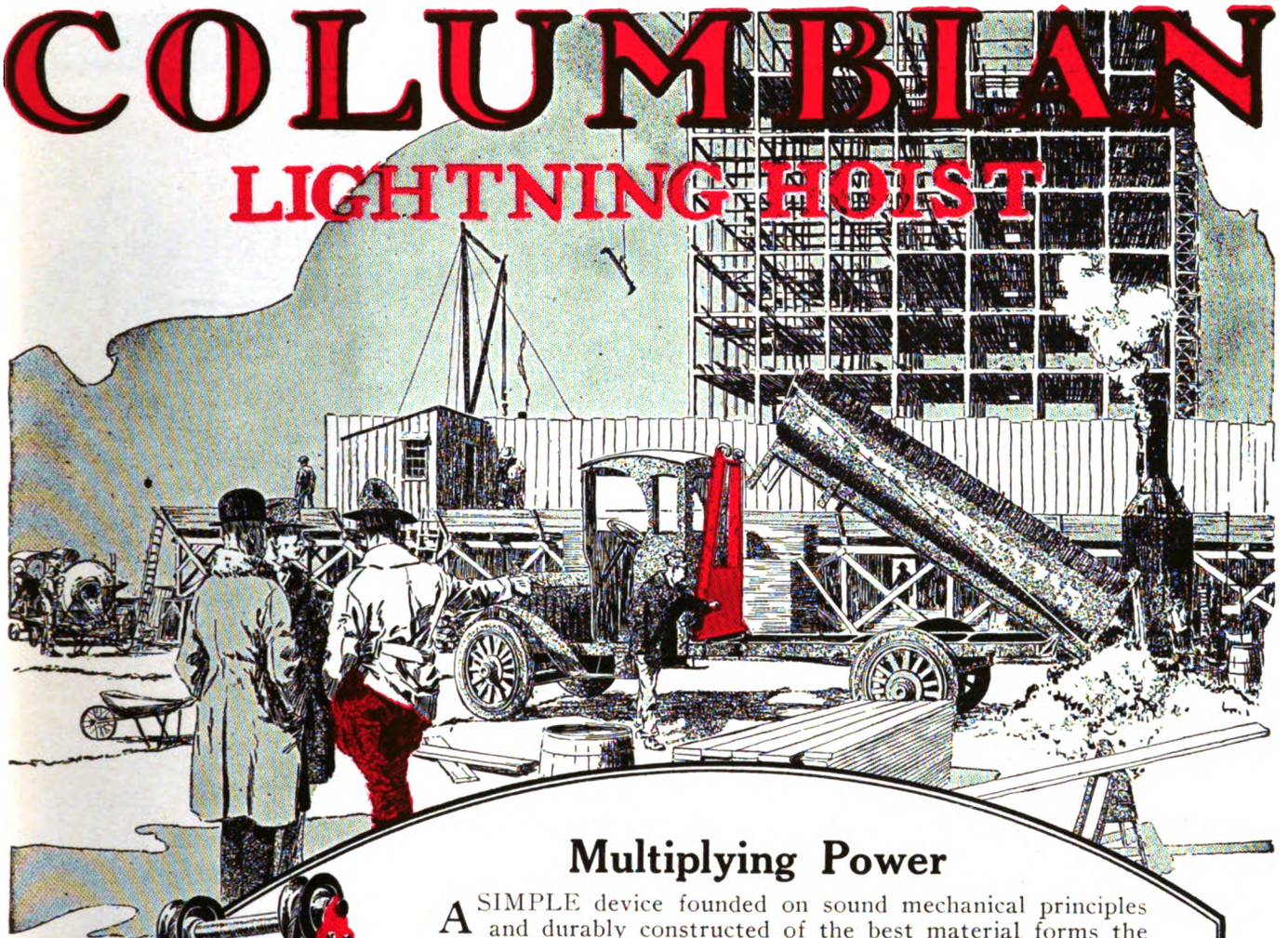
COLUMBIAN
LIGHTNING HOIST



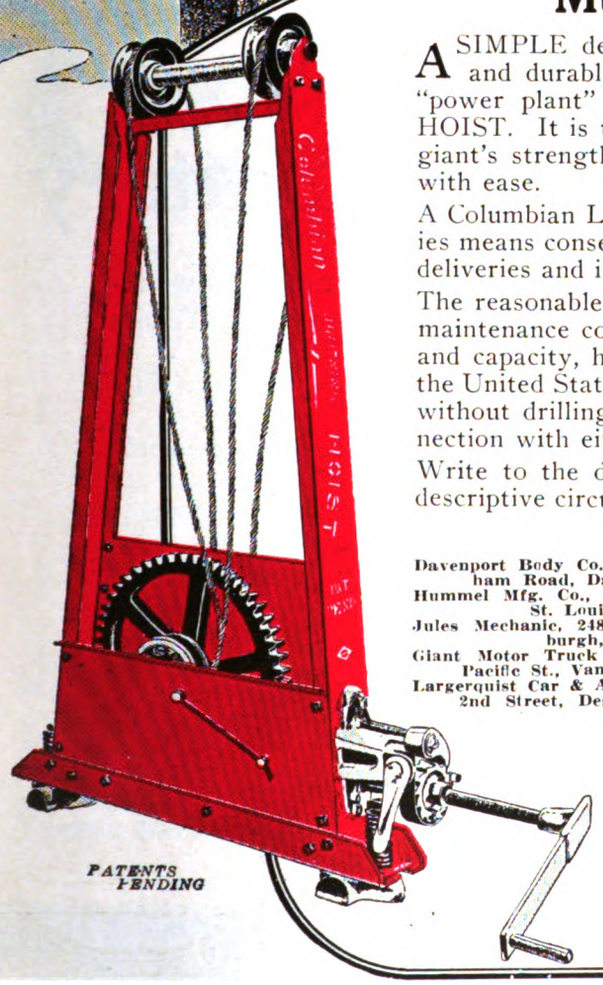
Multiplying Power

A SIMPLE device founded on sound mechanical principles and durably constructed of the best material forms the "power plant" of the COLUMBIAN LIGHTNING HAND HOIST. It is this device which gives the Columbian Hoist a giant's strength, and enables one man to dump a 5-ton load with ease.

A Columbian Lightning Hand Hoist on your truck dump bodies means conservation of high-priced labor, more efficiency in deliveries and increased profits for you.

The reasonable first cost, and almost complete elimination of maintenance costs, together with its power, speed, durability and capacity, have made it the most popular Hand Hoist in the United States today. It will fit any chassis and is mounted without drilling holes in the frame, and can be used in connection with either a metal or wooden dump body.

Write to the distributor nearest to you or to us direct for descriptive circular 8901 and further details.



LIST OF HOIST JOBBERS:

Davenport Body Co., 1509-33 Buckingham Road, Davenport, Ia.
Hummel Mfg. Co., 3008 La Salle St., St. Louis, Mo.
Jules Mechanic, 248 Croft St., Pittsburgh, Pa.
Giant Motor Truck Co., Granville at Pacific St., Vancouver, B. C.
Largerquist Car & Auto Co., 514 West 2nd Street, Des Moines, Ia.
Albright, S. S., 13th & U. St., Sacramento, Cal.
Beard & Co., 418 Keller Bldg., Louisville, Ky.
Blackwell Motor Co., Cor. 3rd & Post, Spokane, Wash.
Landes & Co., 2nd West & S. Temple, Salt Lake, Utah
Press & Sons, Jacob H., 300 Halsted St., Chicago, Ill.

COLUMBIAN STEEL TANK COMPANY

"Tanks for the World" *Established 1894*

1519-1625 W. 12th St., Kansas City, Mo.

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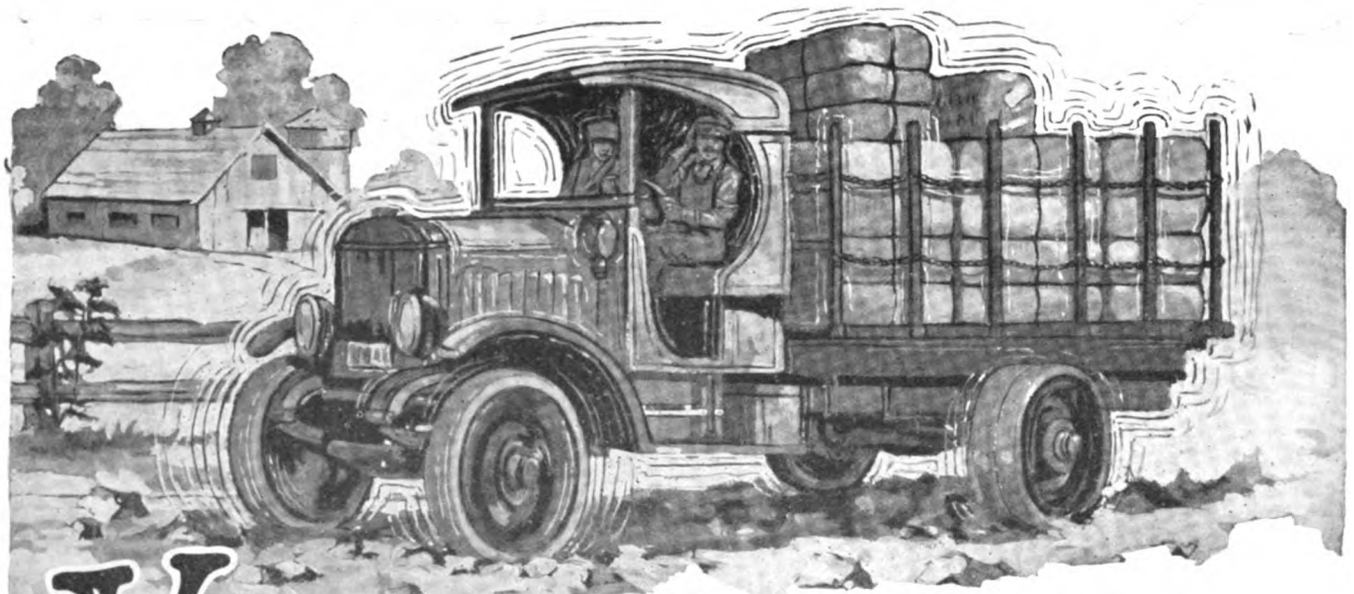
THE ELECTRIC STORAGE BATTERY CO.



VIBRATION

That's what is occurring in every inch of your truck. And that's the reason no *ordinary* storage battery can "stand the gaff" of this service.

Play safe now. Equip with the

"Exide" Starting & Lighting Truck Battery

The battery that was especially designed and constructed to withstand the terrific shock and vibration of service on the Army Tanks

This battery embodies every qualification essential to a battery for solid-tired motor trucks.

It is strong, powerful, dependable and enduring; able to meet every demand and to keep on meeting them.

Behind it is the 32 years' experience of the *largest* manufacturer of storage batteries in the world.

It is the *one* battery that will improve your service and cut down expense.

Details on request at our nearest sales office.

THE ELECTRIC STORAGE BATTERY CO.

1888 PHILADELPHIA, PA. 1920

New York Boston Chicago Washington Denver San Francisco St. Louis
Minneapolis Cleveland Atlanta Kansas City Pittsburgh Detroit Rochester

Special Canadian Representatives, Charles E. Goad Engineering Co., Limited, Toronto and Montreal

"Exide," "Hycap-Exide," "Ironclad-Exide," "Thin-Exide," "Chloride Accumulator"

Batteries are made by this Company for every storage battery purpose

THE ELECTRIC STORAGE BATTERY CO.

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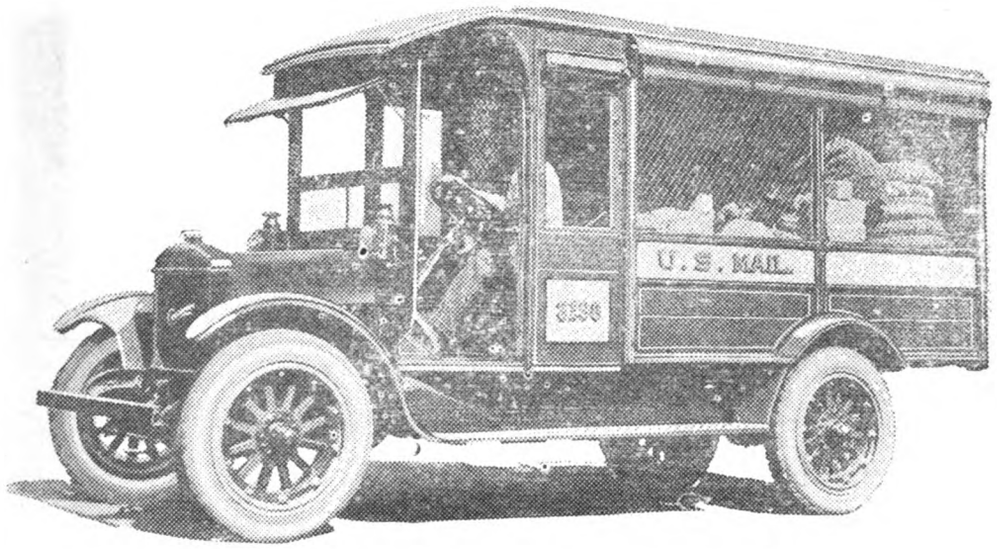
Commerce TRUCKS

On the Job for Uncle Sam



Commerce TRUCKS

Hauling the mail is hard, exacting work. Mail trucks must meet strict schedules day in and day out—must be swift, economical and absolutely dependable.

On the streets of scores of cities Commerce Trucks are daily fulfilling the exacting requirements of the Post Office Department in the hauling of mail. Out in the rural districts of Pennsylvania, Maryland, Virginia and Utah Commerce Trucks are hauling rural express for the Post Office Department—hard, exacting service.

Commerce Dealers must make money. Invariably the good truck dealer who appreciates what a good selling truck is today is the Commerce Dealer in that locality.

The Commerce Motor Car Company, Detroit, Mich.

Largest Manufacturers of 1 to 2 Ton Trucks ***10th Year Truck Manufacturers***

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THE good will acquired by Sheldon through its widespread educational advertising is passed on to manufacturers and dealers whose trucks are Sheldon-equipped.
THE SATURDAY EVENING POST
Sheldon Axle
for Motor Trucks
Do You Know the Strength of Locomotive Axle Construction?
THE SATURDAY EVENING POST
Sheldon A
FOR MOTOR TRUC
Built on the Locomotive Axle Princ
Stands Terrific Strain and Impact
Sheldon Axle
for Motor Trucks
BUILT ON THE LOCOMOTIVE AXLE PRINCIPLE
Beginning, The Possibilist
TRADE MARK
REG. U.S. PAT. OFF.

Please mention "Power Wagon" when writing to advertisers.

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Curb impact

The little game of "bucking the curb" is regularly played by many drivers—especially truck drivers. And just because WOOD Wheels resist such abuse, losses due to carelessness are in very many instances averted.

WOOD Wheels withstand the constant side thrust—caused not only by curb impact, but also by road obstructions that deliver innumerable mighty blows against the wheel rims in every mile traveled. Side thrust is resisted by both the scientific construction of WOOD Wheels and the natural resiliency of the wood itself.

This is another reason why WOOD Wheels have been used for years and will continue to be used on the world's best trucks.

AUTOMOTIVE WOOD WHEEL
MANUFACTURERS' ASSOCIATION
105 West Monroe Street Chicago, Ill.

WOOD WHEELS for MOTOR VEHICLES

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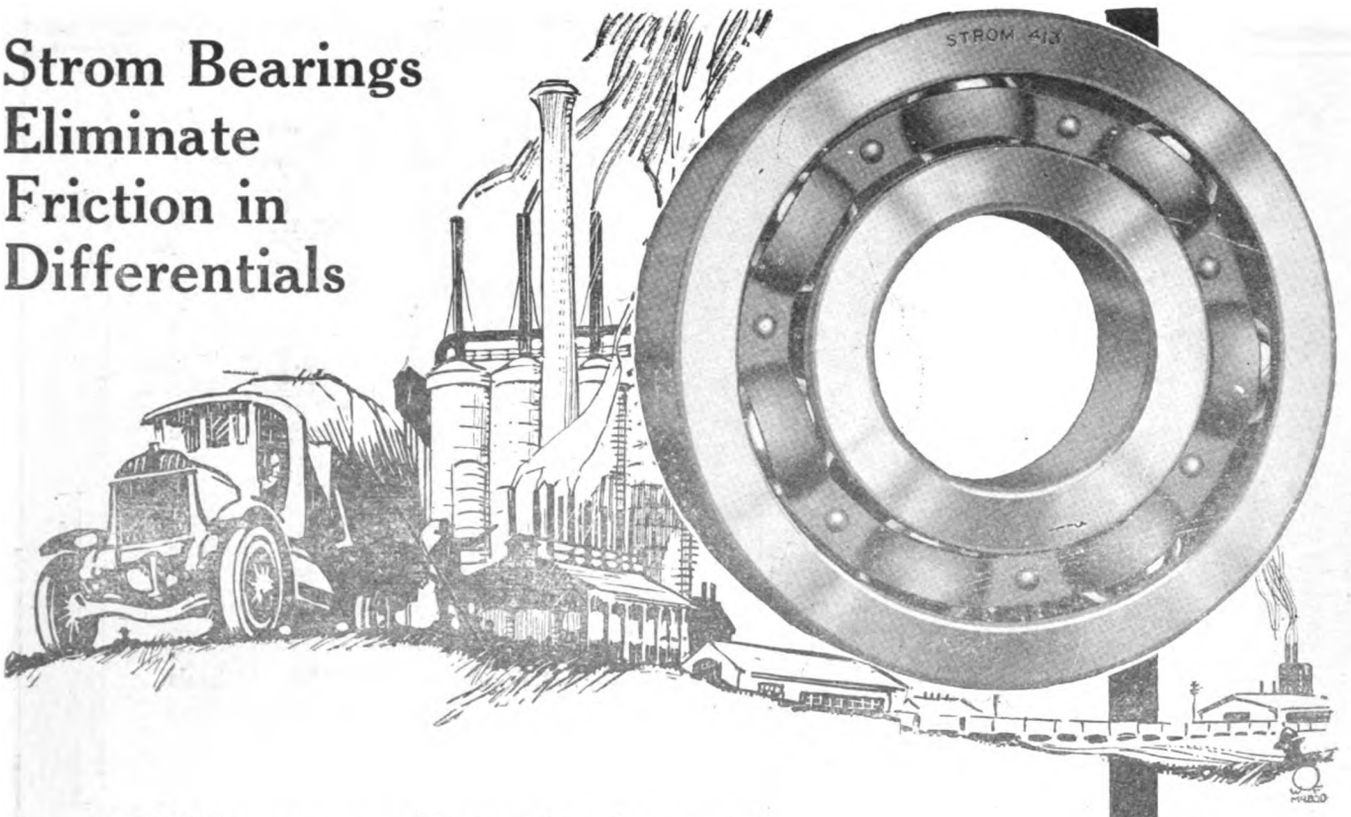
Strom Bearings Eliminate Friction in Differentials

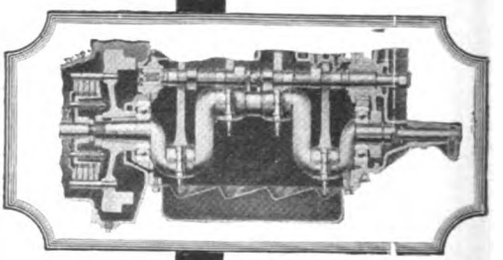


THE two types of Strom Bearings used in this passenger car differential mounting save power by eliminating friction.

The Strom radial bearings carry the load of the ring gear, and one single direction thrust bearing at either end of the differential carries the thrust load.

The qualities of Strom bearings which give long wear under hard service are due to the special treatment of the materials and the accuracy of construction.

There is a Strom ball bearing for every purpose. Our engineers will help you select the right type for your needs.



In this style of mounting radial and single direction thrust bearings combine to carry the load.

U. S. BALL BEARING MFG. CO.
(Conrad Patent Licensee)
4535 Palmer Street Chicago, Illinois

Strom BEARINGS

(60)

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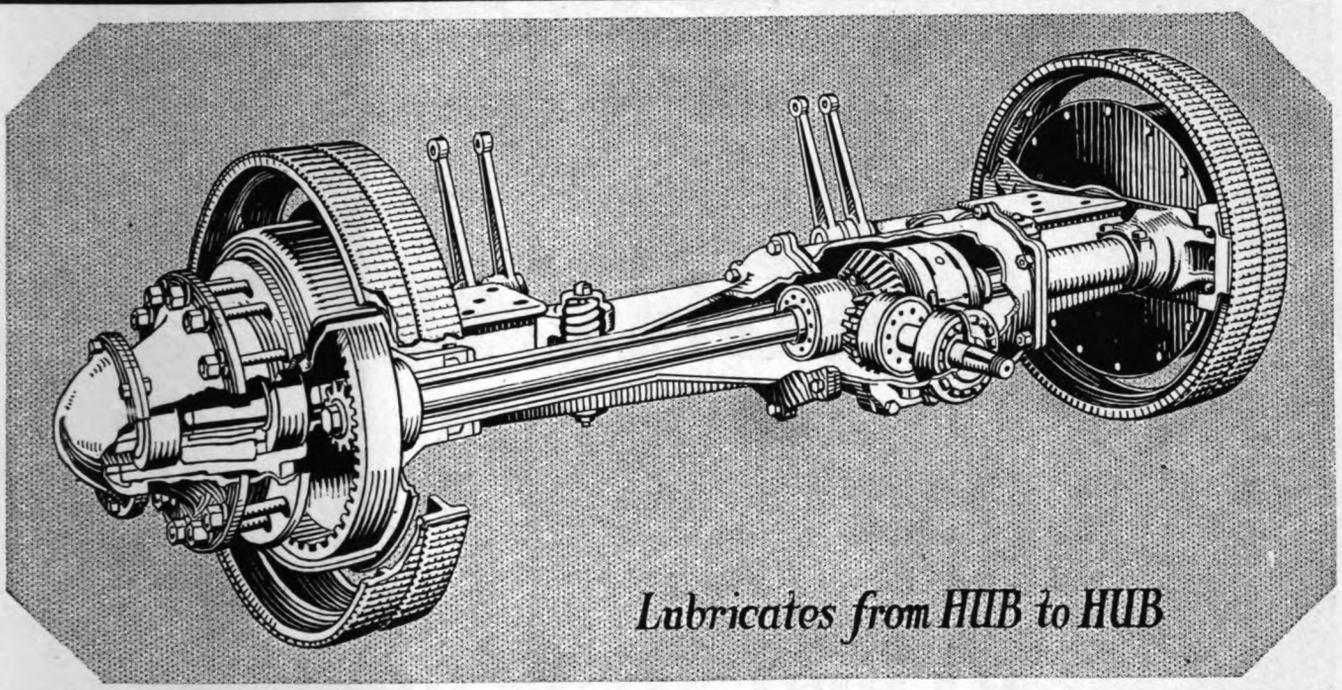

More than 95 per cent Built in the Kennedy Factory

Consistent Kennedy quality throughout is made possible because Kennedy axles are more than 95% manufactured —not merely assembled—in the Kennedy factory. Every man in the Kennedy shops is educated to one standard of mechanical perfection in each part. This high standard enhances the value of a basic design that renders the Kennedy ***the most perfectly lubricated internal gear axle in the world.***

1 ton 1½ ton 2½ ton 3½ ton

Write for technical literature showing fifteen good reasons for Kennedy efficiency

THE HERO MANUFACTURING COMPANY

Incorporated 1883 **Philadelphia, Pa.**

Kennedy INTERNAL GEAR axles

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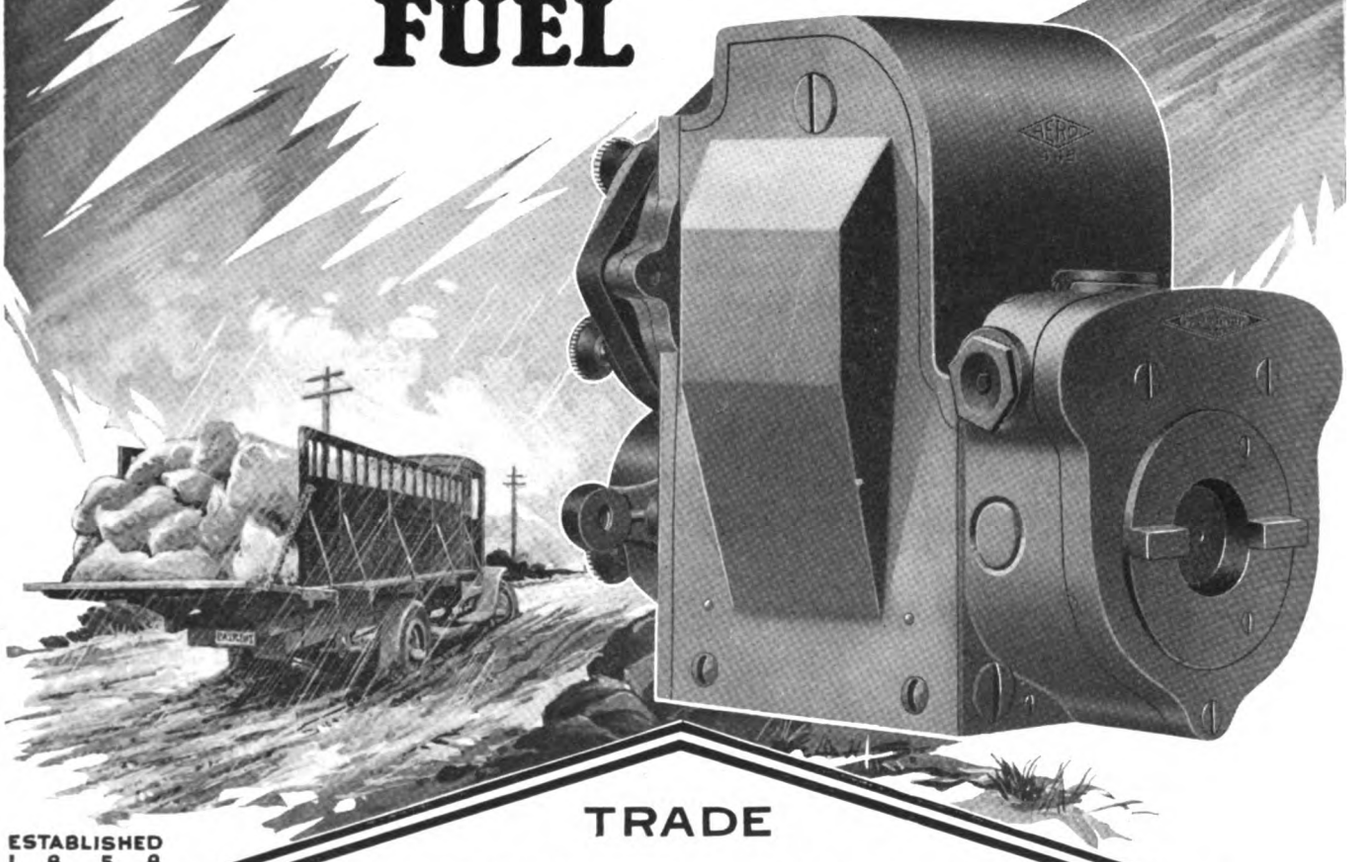
The
MAGNETO
That Wrings
EVERY Ounce of POWER
From
EVERY Drop of
FUEL



ESTABLISHED
1 8 5 8

TRADE
SPLITDORF
MARK

SPLITDORF ELECTRICAL CO.
NEWARK, N. J.

WORLD'S LARGEST MAKERS
OF IGNITION EQUIPMENT

Please mention "Power Wagon" when writing to advertisers.

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Wilson dependable MOTOR TRUCKS
Time Tested Transportation
The Strongest Proof of Excellence
65,000 Miles at $3.47 Monthly Cost
In Postal Telegraph Construction Work
You Can Establish a Profitable Motor Truck Business
The Armstrong Transfer Company Uses Wilson Trucks in Boston
This Truck Has Worked Above the Clouds
Why Do Motor Truck Dealers Make Money?
"Reliability Is Unquestioned"
Inter-State Haulage Made Easy With Wilsons
"Does the Work of Five to Nine Teams"
IT is not alone for their rugged strength and their get-there-and-back ability that great corporations continuously purchase Wilson trucks.
Big business looks also to mature age—to that ripened experience which bespeaks a worthy and dependable product.
And to their purchases of Wilson trucks you will find that the United States Government, and scores of Industrial concerns like Standard Oil, the United Fruit Co., Swift & Company, Sinclair Oil, the Standard Oil, the United Stores Carriage Company, the Coffin Packing & Provision Company, the Armstrong Transfer Company, the Postal Telegraph Company, have been influenced, to a very large degree, by the fact that Wilson trucks have now been built for eight years; and that back of all this are still twenty-nine additional years of commercial vehicle manufacture—an honorable record covering thirty-seven years in all.

A Nationally Advertised Truck

The reduced facsimile reproductions of 13 full page advertisements in the Saturday Evening Post, appearing during the last twelve months, represent but a part of the publicity behind Wilson trucks.

Every Wilson dealer benefits from this campaign of national advertising.

It is a guarantee to the buying public that here is a factory which believes in cooperating with its dealers.

Are You Selling an Unadvertised Truck?

Don't you really think the time, energy and money expended on account of an unknown product would be much more profitable when put back of a nationally advertised motor truck?

We have some valuable territory still unassigned and can make attractive dealer contracts to such men or organizations as meet our requirements.

Better get in touch with us at once

J. C. WILSON COMPANY

Detroit, Mich.

Digitized by Google

The New DIETZ "CONVOY" DASH LAMP

The Lamp That Won Instant Approval From Truck Operators

THE Dietz "Convoy" Dash Lamp meets a demand for dependable Motor Lamps of the Dash type. It is sightly—small enough to be out of the way—large enough to give plenty of light and good enough to stay lit in spite of road shocks that would put out the light of a less well made lamp.

The "Convoy" family of Dietz Motor Lamps includes Side, Dash and Tail Lamps—all thoroughly reliable and moderately priced.

Send for Catalog

R. E. Dietz Company
60 Laight Street New York
Founded 1840

JAMES BARNES, Sales Manager, Motor Truck Lamp Dept., CARTER BUILDING, ROCHESTER, N. Y.

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KISSEL

Your Hauling Problems *Can Be Solved*

THERE may be peculiar conditions —unusual obstacles—new problems—but they can be met—overcome —solved—by Kissel Trucks.

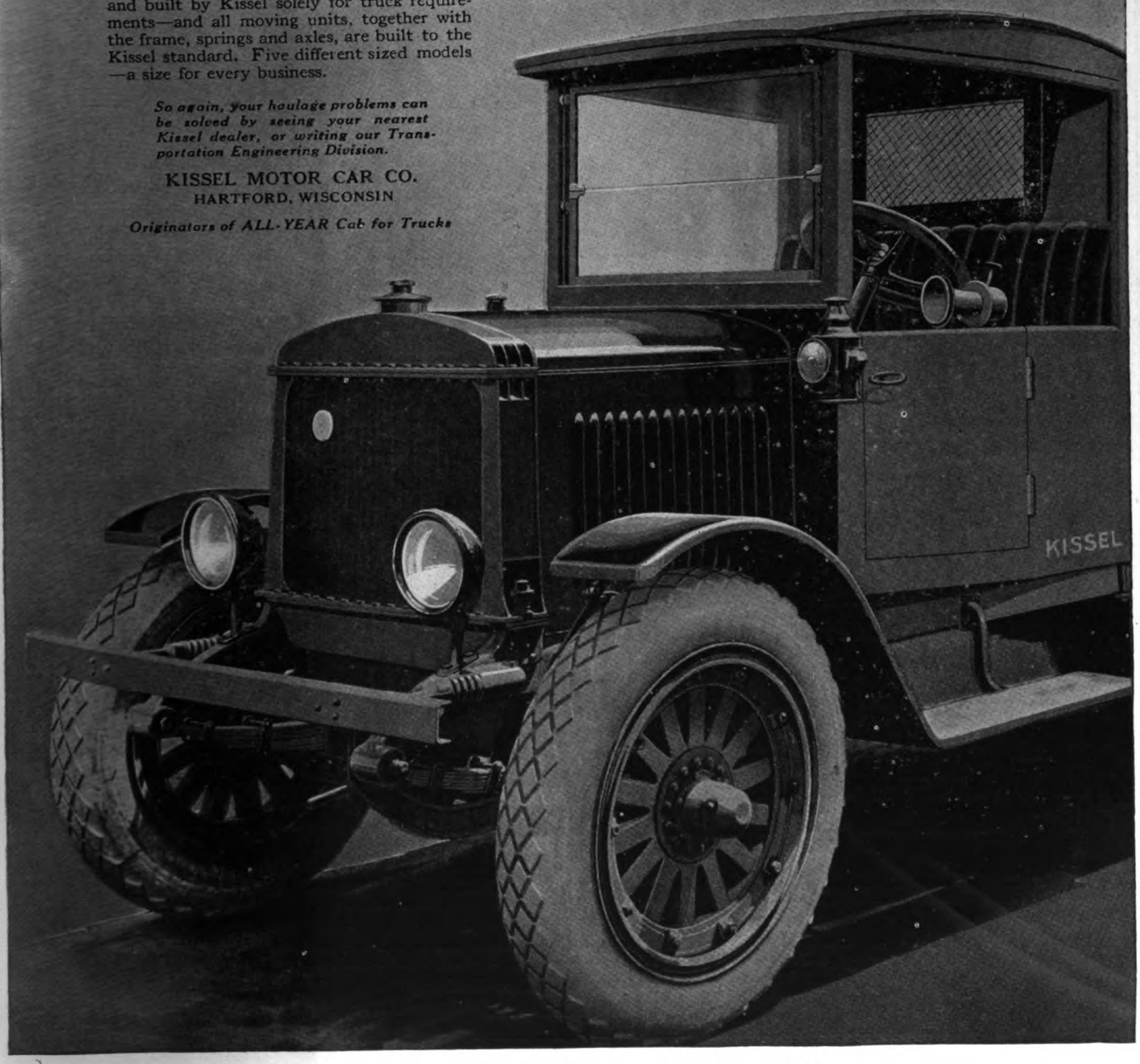
For Kissel Trucks represent a development in motor transportation far in advance of the problems they are called upon to solve.

The motor—sturdy, powerful—is designed and built by Kissel solely for truck requirements—and all moving units, together with the frame, springs and axles, are built to the Kissel standard. Five different sized models —a size for every business.

So again, your haulage problems can be solved by seeing your nearest Kissel dealer, or writing our Transportation Engineering Division.

KISSEL MOTOR CAR CO.
HARTFORD, WISCONSIN

Originators of ALL-YEAR Cab for Trucks



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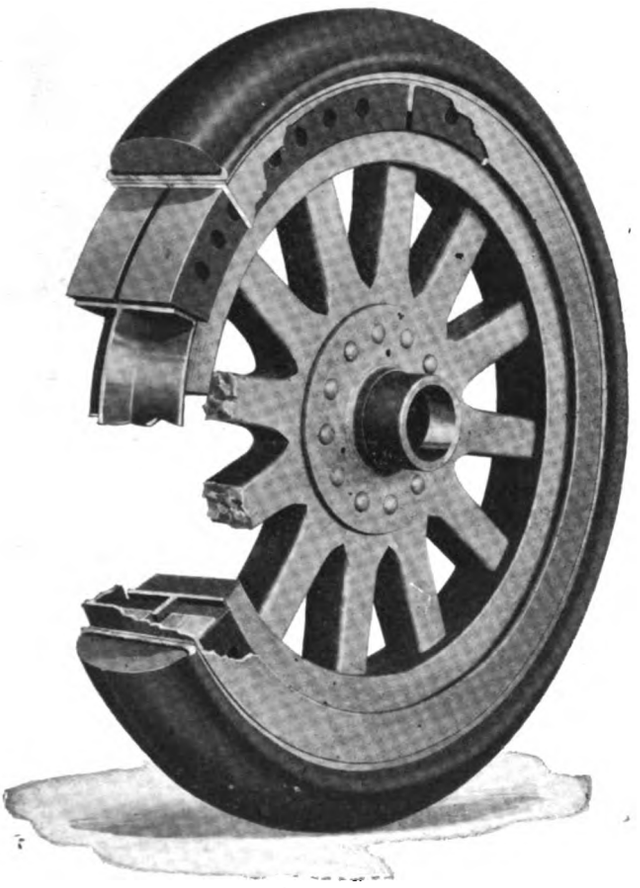
Universal TRUCK WHEELS

Steel Cushioned Wheels

HUBLESS FULL FLOATING

Mead Cushioned Wheels

A Practical Wheel for Trucks, Tractors and Trailers



This Wheel Excels in Resiliency, Efficiency, Durability and Economy.

Simple in Construction

Mechanically Correct in Construction

Vibrations and Hammer Thrusts from Road Contact are Absorbed in the Wheel

Reduces Gasoline Expense 25%

Reduces General Upkeep Expense More than 50%

Protects the Engine and Chassis against Crystallization

The Wheel Designed with a Knowledge of Traffic Conditions

A Practical Wheel for Any Truck on Any Road with Any Load

This Wheel Meets the Growing Demand of Truck Users for Reducing Upkeep, and for Protection from Engine, Tire and Chassis Troubles.

A Wheel With Perfect Drawbar Pull

This Wheel Rides with the Resiliency of Pneumatic Tires and is not injured by Oils, Acids, Salts or Other Chemicals, because the Rubber is fully protected.

Initial Investment Compensated by Reduced Aftercost Plus Upkeep

PITTSBURGH TRUCK WHEEL CORPORATION

General Offices: 405 Fulton Building

PITTSBURGH, PA.

Please mention "Power Wagon" when writing to advertisers.

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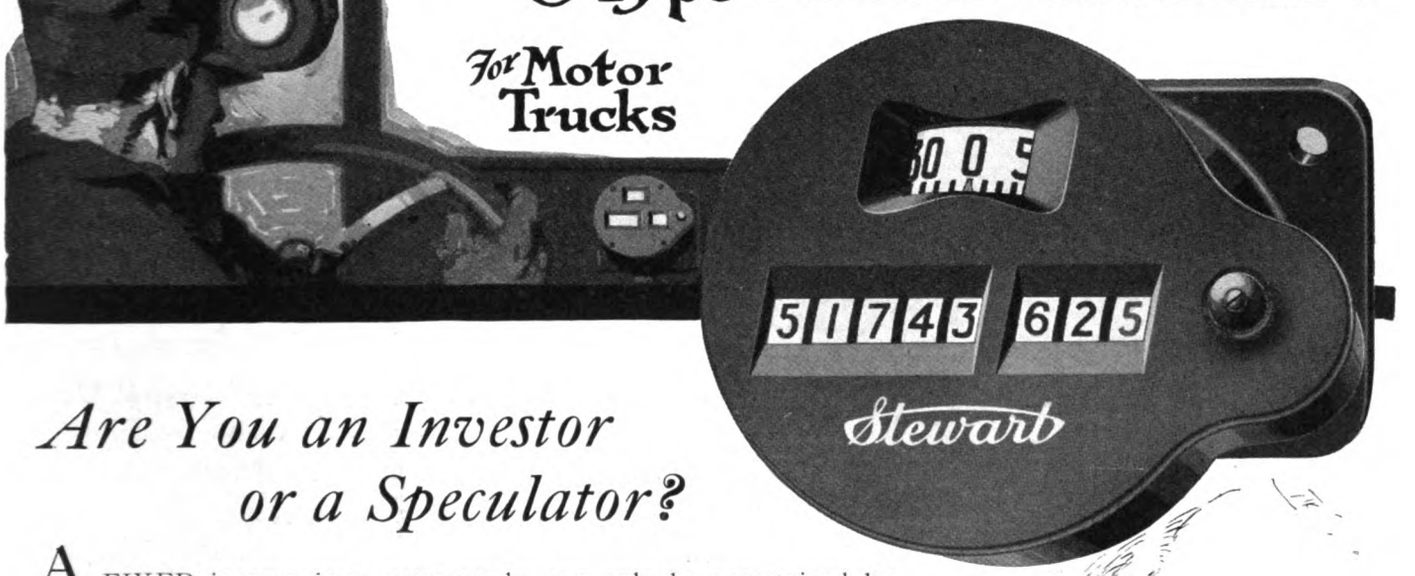
Stewart

Magnetic Type SPEEDOMETER

For Motor Trucks



Are You an Investor or a Speculator?

A FIXED income from your trucks can only be ascertained by determining the cost per mile. Do you want an unbroken series of cost records covering a long enough period of time to make them instant and trustworthy guides?

Would you bring to light the operating economics of one driver and the profit-eating carelessness of another?

Would you prove the qualities and brands of fuel, oil and tires?

Which is the cheapest and shortest route for delivery over a given territory?

Are you certain that your trucks are being operated at a minimum cost?

A Stewart Speedometer Will Tell You

To be operated most economically and profitably, every motor truck **should be equipped with a Stewart Speedometer. It will answer all the above questions, and more.** Will quickly pay for itself by reducing expenses.

Our special Truck Model was designed during the war for the U. S. Government. It will, therefore, stand up and render continuous service under **the hardest usage.**

Every truck should also have a Stewart Vacuum Gasoline System, a Stewart Warning Signal and be equipped with two Stewart Searchlights. Progressive truck and **accessory dealers carry all these products as part of their regular stock.**

Model 131 M

$35

Stewart-Warner Speedometer Corporation

C H I C A G O, U. S. A.

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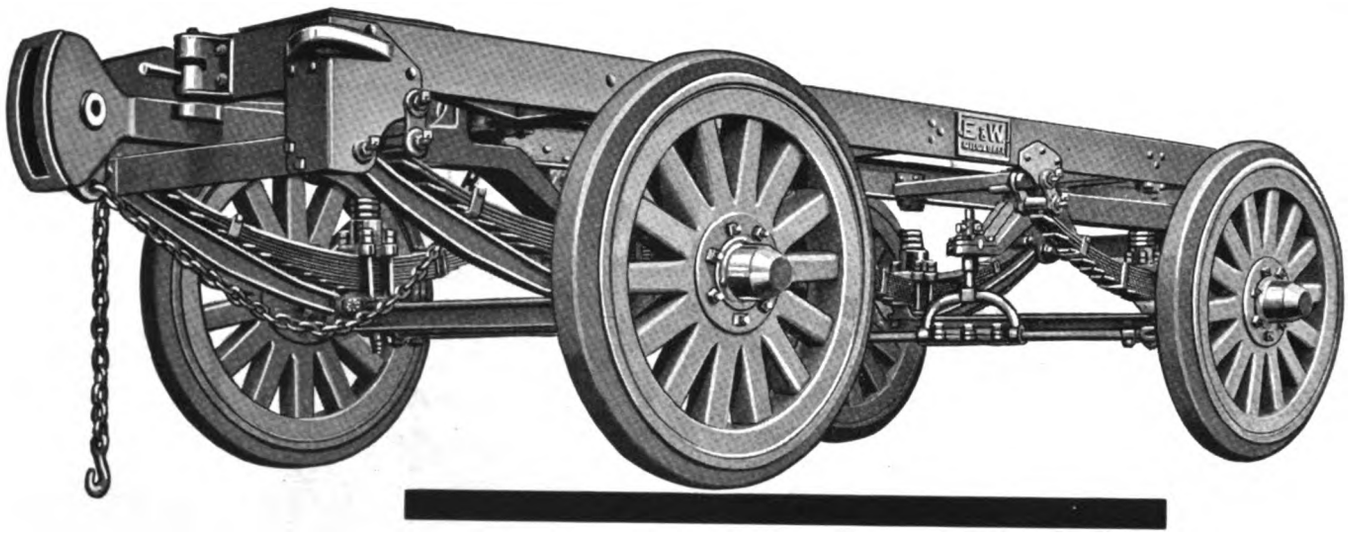

The greatest trailer value on the market

The E. & W. Trailer is equipped with radius rods that relieve the springs—also ***prevent the trailer from side-swinging and snaking.*** And the E. & W. direct draw bar pull further insures ***true tracking.***

The E. & W. Trailer is not a drag on the truck's power, and will carry full load at full truck speed without straining the motor.

There are other ***built-in*** reasons why the E. & W. is the greatest trailer value on the market. Write now for details.

2½, 3½, 5-TON, Reversible Types
Note Sturdiness of Materials and Design

DEALERS—Write now for attractive arrangement for your territory.

E. & W. Truck Units

make a truck from any passenger car. Not a makeshift, but a 100% truck. 18 styles, 1 to 5-TON, internal gear and worm drive. Fully illustrated descriptive literature sent on request. Write now.

E. & W. Company

Manufacturer

MILWAUKEE, WISCONSIN, U. S. A.

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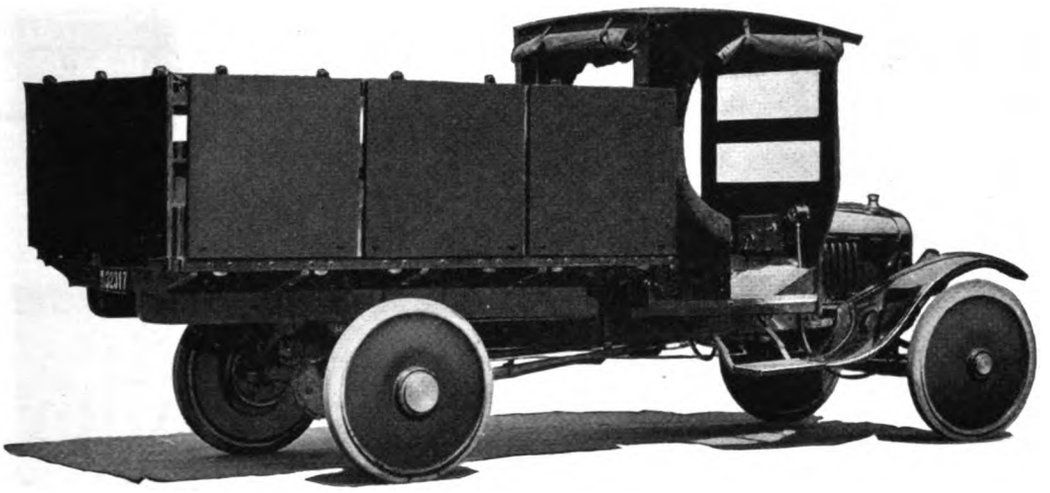
The Cornfield Resilient Wheel

Pneumatic Results—And More—With Solid Tires



Automotive Engineers endorse the Cornfield Resilient Wheel the Greatest Achievement in the Truck-Building Field

Numerous mechanical devices have been designed in attempts to stop the injurious vibration of motor driven vehicles.

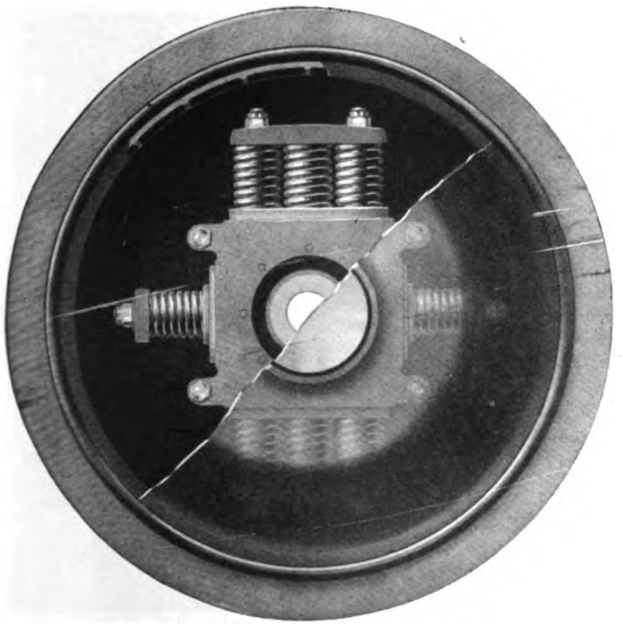
It has been accomplished to a great extent in passenger cars but trucks still rack to ruin over rough pavements and uneven roads.

The Cornfield Resilient Wheel acts on an entirely different principle. It floats the axle and the entire load.

Prominent automotive engineers have given Cornfield Resilient Wheels their approval.

The spring suspension in this wheel is so evenly balanced that the chassis and load are floated. This wheel reduces the resistance to the power of the motor.

It goes a long way toward eliminating vibration. It minimizes tire wear and increases mileage on gasoline used.



The spring action is on the axle Springs do not revolve with wheel

Cornfield Resilient Wheels Are Now Made in Full Sets for Ford One Ton Trucks and Other Light Trucks.

Send for complete descriptive catalog. It shows all details of construction. It is technical enough to prove to the engineer the practical value of the wheel. It is simple enough to be understood by the man who does not know mechanics.

Cornfield Wheel Co., Inc.
Anna Place Detroit, Mich.

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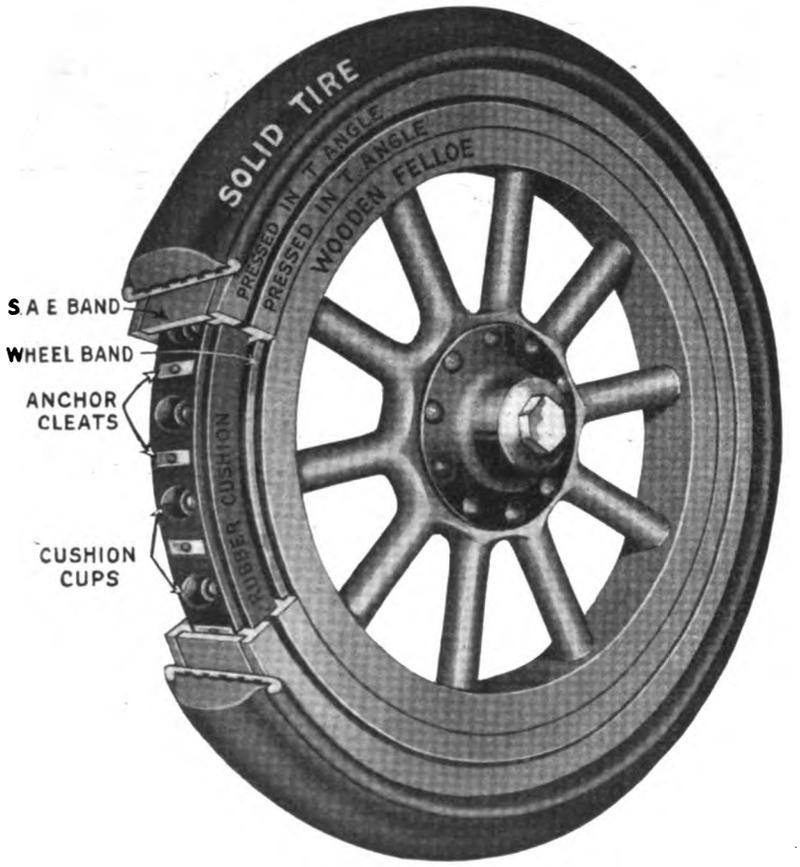
MARTIN
CUSHION WHEELS
for Motor Trucks

No bolts
No nuts
Pressed on
Throughout
Light
Strong
Resilient
Durable



Backed
by
Nine Years'
Experience
in Building
Good
Cushion
Wheels

Adopted for Standard Equipment on
"OLD RELIABLE" MOTOR TRUCKS
1½ to 7 Ton

MARTIN CUSHION WHEEL CO.
311-13 N. Sangamon St. **CHICAGO, ILLINOIS**

Branches and Service Stations in All Principal Cities

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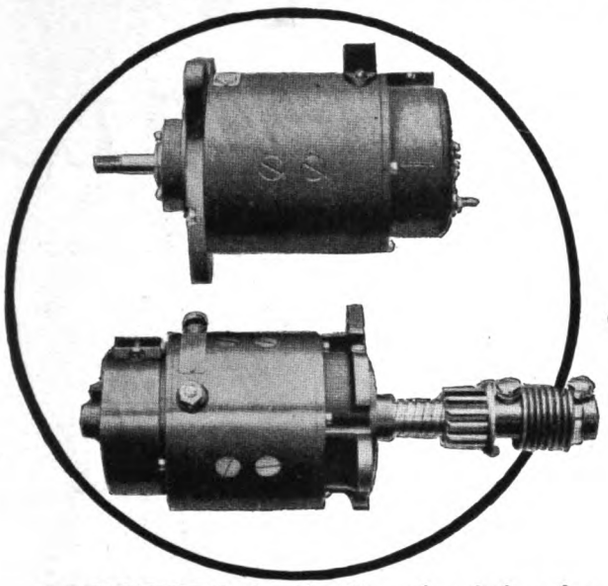
Electric Starting and Lighting



Of Course!

OSHKOSH 4-WHEEL-DRIVE TRUCK

Is and Always Has Been FULLY EQUIPPED

DRIVERS don't like the job of cranking a heavy truck motor. It's hard work and it's dangerous. In spite of positive instructions, they will let the engine run rather than crank it every time they make a stop.

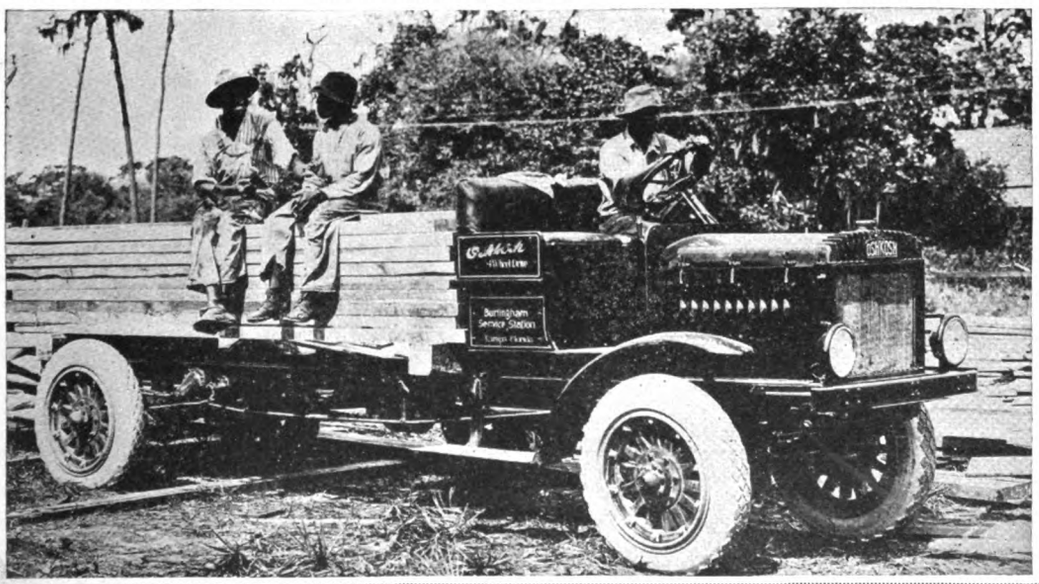
One large operator of motor trucks recently discovered by the aid of checkers that his trucks were running idle an average of 4 hours and 45 minutes a day. Needless to say, his trucks weren't OSHKOSH 4-Wheel-Drive—for they all have electric starter as regular equipment.

OSHKOSH 4-Wheel-Drive Trucks Come Complete
No Delay or Expense for Extras

The complete equipment includes electric starting, electric lighting, electric horn, speedometer, pneumatic cord truck type tires all around, demountable rims—one extra, and all-weather cab. Nothing to buy but the special body you need.

The OSHKOSH 4-Wheel-Drive principle of "power on all four," automatically thrown to the wheels that have traction—has won the unqualified approval of operators who require the moving of heavy loads over heavy roads. In the oil fields, in lumber camps, in places where roads are mere trails of sand or gumbo or no roads at all—the OSHKOSH 4-Wheel-Drive can be relied upon to pull through, carrying capacity loads.

OSHKOSH MOTOR TRUCK MANUFACTURING COMPANY **OSHKOSH, WISCONSIN**



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Though nearly 20,000 Maxwell 1½ ton trucks have been built, there never has been a time when the demand did not generously exceed the supply.

Maxwell

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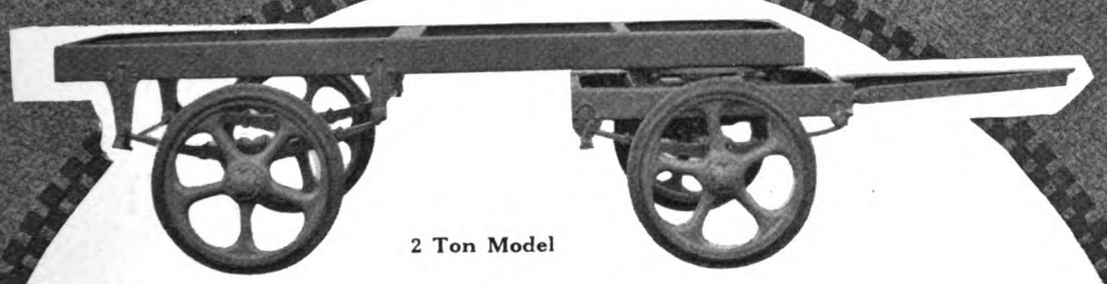
SELL EFFICIENT TRANSPORTATION

Which Means Your Truck—Plus

Automotive Trailers

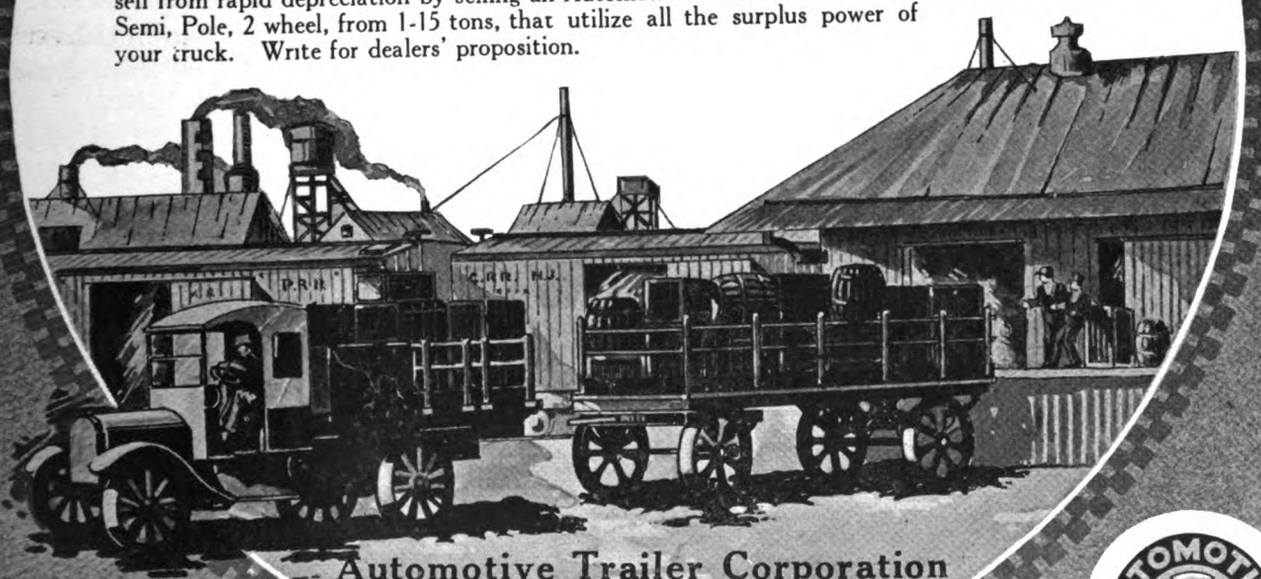


2 Ton Model

Freight Car of the Highway

Your truck **alone** cannot furnish efficient transportation. The reason for this is due to the fact that a Motor Truck, with its limited loading space, can **carry** only one-fourth of what it can **haul.** To really furnish your customers with efficient and economical transportation it is necessary to **sell a Trailer with every Truck.**

Earn the big profits involved in the sale of Automotive Trailers and protect the trucks you sell from rapid depreciation by selling an Automotive Trailer as well. Complete line of 4 wheel, Semi, Pole, 2 wheel, from 1-15 tons, that utilize all the surplus power of your truck. Write for dealers' proposition.



Automotive Trailer Corporation

Factory and General Offices
SPRINGFIELD, ILL.

AUTOMOTIVE ATC TRAILER

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DAY-ELDER

Worm-Drive Motor Trucks

Model A
1-1½ tons Capacity Including Weight of Body 3500 Pounds
$1995

Model B
1½-2 tons Capacity Including Weight of Body 4500 Pounds
$2300

Model D
2-2½ tons Capacity Including Weight of Body 6000 Pounds
$2750

Model C
2½-3 tons Capacity Including Weight of Body 7000 Pounds
$2950

Model F
3½-4 tons Capacity Including Weight of Body 9000 Pounds
$3700

Model E
5-6 tons Capacity Including Weight of Body 14,000 Pounds
$4600

Clearly and Emphatically, The DOMINATING Value

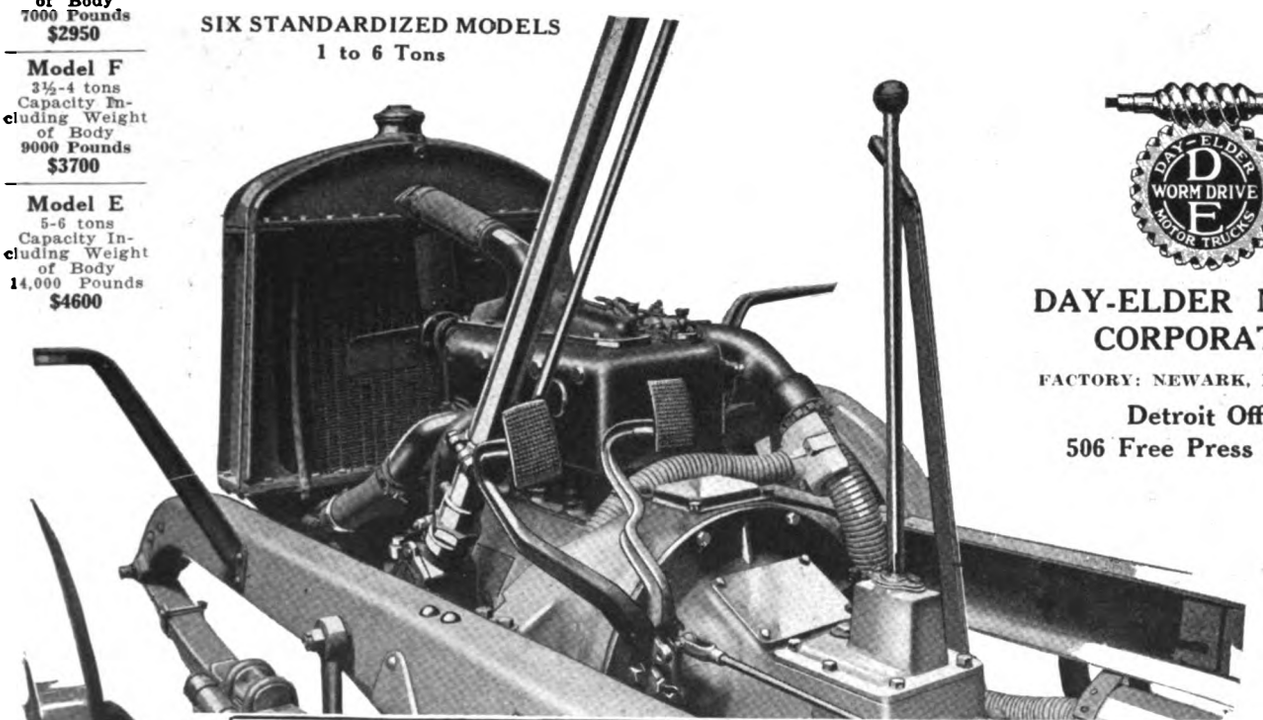
From a humble beginning, DAY-ELDER trucks have gradually forged to the front, until today they are reckoned as a factor in the industry and the dominating value among all worm-drive motor trucks.

Today they are a familiar sight on the highways of commerce the world over. The sun never sets on them.

The world-wide recognition which they have attained could never have been won in any other way except by producing a truck which was fundamentally correct in design and construction, embodying none but the finest materials and built to render the limit of service at the minimum of maintenance cost.

If that is the kind of a truck you want to SELL, communicate with us. Our dealer proposition is most liberal and our service all that you could desire.

SIX STANDARDIZED MODELS
1 to 6 Tons



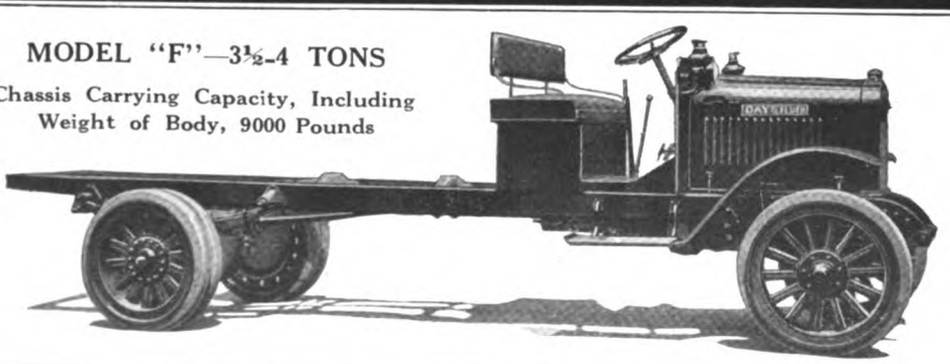
DAY-ELDER MOTORS CORPORATION

FACTORY: NEWARK, N. J., U. S. A.

Detroit Office:
506 Free Press Building

MODEL "F"—3½-4 TONS

Chassis Carrying Capacity, Including Weight of Body, 9000 Pounds



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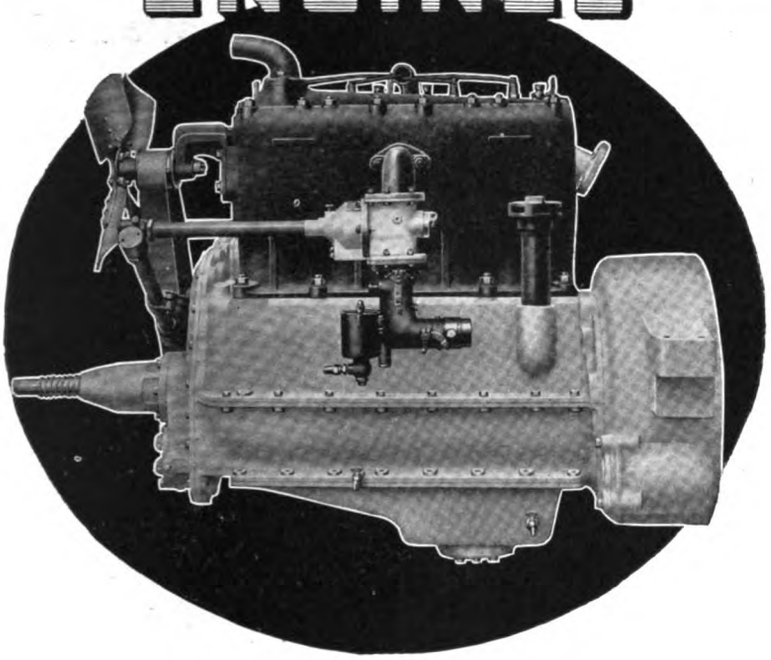
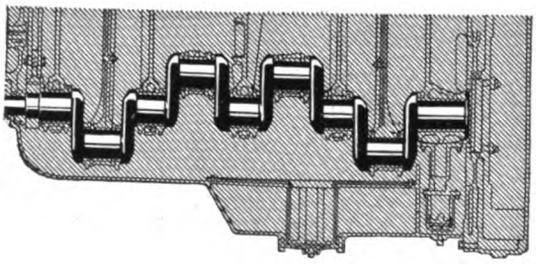
HERCULES
ENGINES





The Factor of Safety

Ample bearing surfaces; a sturdy crankshaft; positive lubrication; copious water spaces around the cylinder heads: in fact *every* detail of Hercules Engines has been designed to provide such a large factor of safety that it will be indifferent to the severest strains of heavy duty.

For the manufacturer who equips his product with Hercules Engines there is also the safety factor of dealing with a well-rounded, smooth-functioning organization of men experienced in engine building.

A Crankshaft With 5 Main Bearings—

—eliminates deflection through the rigid support of a main bearing on each side of every crank pin.

—gives almost endless life of bearings.

—insures such perfect balance that periodic vibrations are eliminated.

—transmits all the generated power into actual driving effort.

The Hercules Motor Mfg. Company
Canton, Ohio

Sales Offices: Detroit Chicago Buffalo
San Francisco London, England

FOR TRUCKS AND TRACTORS

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HIGHWAY TRAILER

EDGERTON WISCONSIN

The Largest Trailer Plant in the World

Sell the Trailer These Great Firms Choose

Many Bankers Now Stipulate the Use of Trailers in Financing Truck Sales

These are a Few Large Operators of Highway Trailers

The U. S. Army *The U. S. Navy*
Baldwin Locomotive Works
Philadelphia
American Telephone & Telegraph Co.
The Cadillac Motor Car Co.
Detroit
The National Tea Company
"Piggle Wiggly" Chain Stores.
Headquarters, Chicago
The Timroth Motor Express Co.
Chicago
Southwestern Telephone & Telegraph Co.
St. Louis, Mo.
Towars Creamery Co.
Detroit
Chicago Telephone Company
The T. M. E. R. & L. Interurban Express Co.
Milwaukee, Minn.
The Fisher Body Co.
Detroit
The Rex Manufacturing Co.
Connersville, Ind.
The Public Service Company
Chicago
The Timken-Detroit Axle Co.
Detroit
Lindeteves-Stokvis Co.
Amsterdam, Holland
Dutch East Indies
Semarang-Soerabaya-Batavia
Tegal-Djokjakorta-Bandoeng
Medan-Makassar
T. E. M. A.
Buenos Aires-Shanghai

Highway Trailers have established a dominant place in the scheme of modern transportation.

Nothing could emphasize their importance more strongly than the recognition of their economy and efficiency by hundreds of concerns, whose business extends not only throughout America, but in every part of the world.

And now many bankers have endorsed the utility and earning power of the trailer, by stipulating the use of trailers as a condition to financing truck sales.

Every truck in your territory is a prospect for Highway Trailers. The time seems near when every truck sold, will sell one or more trailers.

The quality and construction of Highway Trailers is proved by the fact that it was the only trailer accepted without design change by the U. S. government, which operates more than $1,000,000 worth.

You can sell the advantages that made Highway Trailers the choice of all these. It is your opportunity to build a big profitable business. Write for details.

Note Price Advantage of Highway Trailers

1½ Ton $785 4 Ton $1325
2½ Ton $985 6 Ton $1695

The Timroth Motor Express Co., of Chicago Operates a Large Fleet of Highway Trailers in Connection with 150 Trucks. "Each of My Trailers Earns $35 a day," Says Mr. Timroth.

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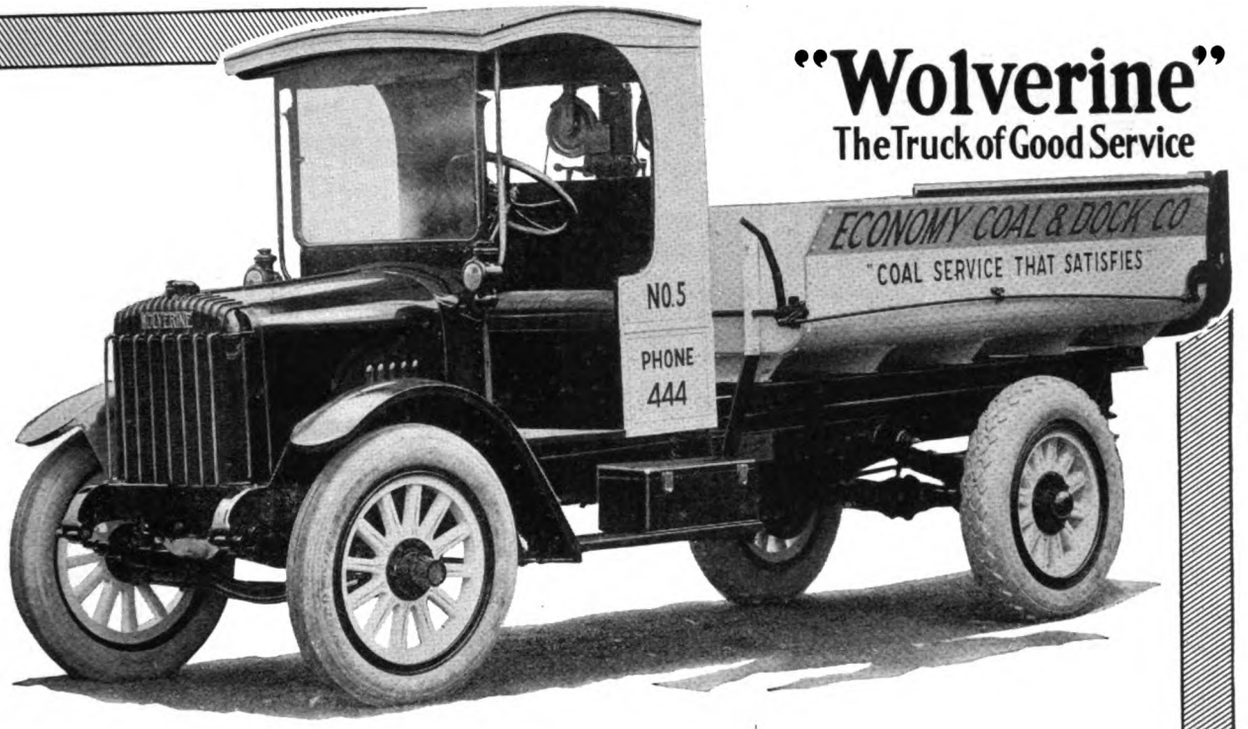

"Wolverine"
The Truck of Good Service

Increased Capacity Enables Us to Contract with Eleven More Dealers

If you are in the business or are looking for a truck — examine the **Wolverine.**

As a truck, the **Wolverine** will stand comparison with the best—as you now know the best—that is made anywhere today. We have no apologies to make for it.

As a selling proposition you can find none better anywhere than we have to offer you.

Lastly, we assure you that we are able to deliver promptly all trucks called for by our dealers and guarantee you the same service.

Detroit, Mich., Nov. 15, 1919.

AMERICAN COMMERCIAL CAR CO.,
Detroit, Michigan.

Gentlemen:—Your recent inquiry as to how we like the Wolverine Truck, should have received its answer from the fact that we purchased two of them this year. We surely would not have acquired the second if the first had failed to stand the gaff.

However, for your benefit, we will carry a little coal to Newcastle by stating that our two Wolverines are certainly holding up their end in demonstrating the three virtues that make a truck an invaluable aid in holding down existing high operative costs—efficiency, economy and dependency. In the expressive vernacular of the street, the Wolverine is unquestionably a peach.

CHAMPION BEVERAGE COMPANY.
F. Schmidt, Pres.

Write now for prices, discounts and any other information you want. Trucks are scarce and becoming more so.

American Commercial Car Co.
DETROIT, MICHIGAN

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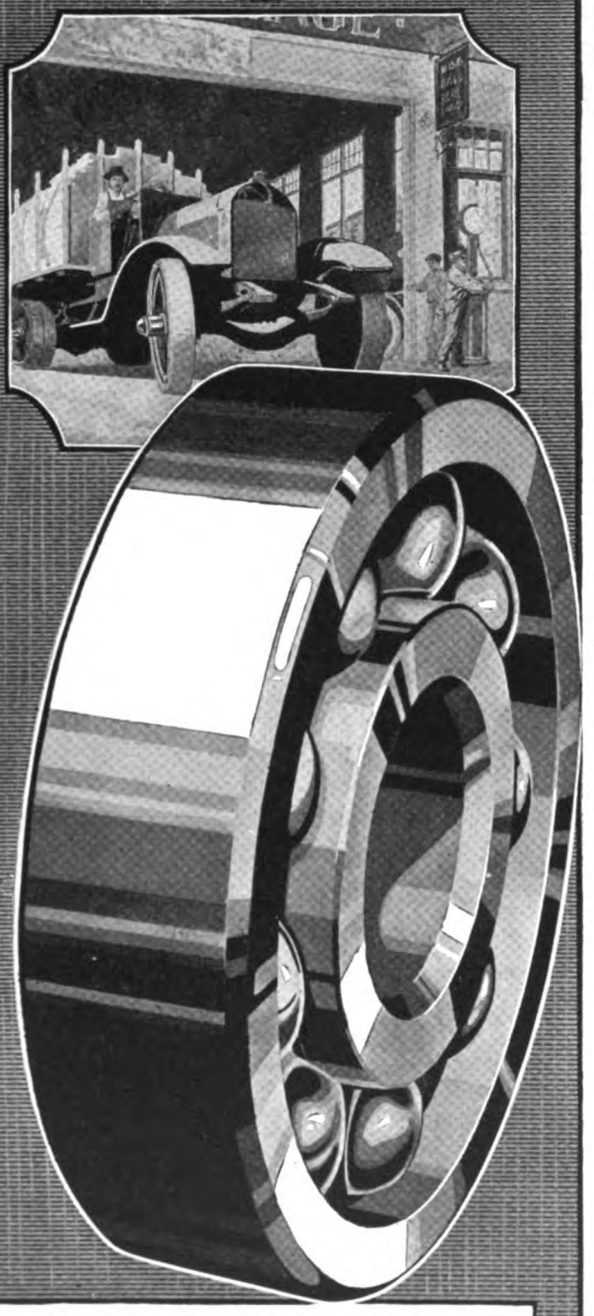
NEW DEPARTURE

Ball Bearings



You cannot change bearings like you change tires. Engineers specify New Departure Ball Bearings because their reputation is staked on the sustained performance of your trucks.

THE NEW DEPARTURE MANUFACTURING CO.

Detroit Bristol, Conn. Chicago

592

For the AUTOMOBILE, MOTOR TRUCK, *and* TRACTOR

Empress

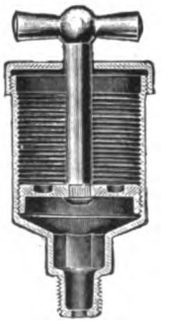
Empress

Grease and Oil Cups

Standard Lubricator Equipment

There are, by far, more Empress Lubricators in use on passenger cars, motor trucks, and tractors than all other types of grease cups, oil cups and lubricating devices combined. Their dependability and serviceability are best proven by this fact alone.

Since the birth of the motor vehicle industry, they have done their part, providing effective lubricators for every conceivable part requiring lubrication.



EMPRESS
No. 213 Marine Grease Cup

This cup is particularly well suited for use in several places on the automobile or motor truck where it is desirable to grease the bearings at certain intervals, and is also much used where necessary to force grease a long distance.

This cup is stronger and lighter than other cups of this same type and will stand much abuse with damage.

The T handle and plunger provides a very easily operated cup.

Furnished with leather packed plunger if desired.

CATALOG R shows many other types equally good—WRITE FOR IT.

BOWEN PRODUCTS CORP.

Manufacturing and Sale Divisions:

AUBURN DIV., AUBURN, N. Y. MINNEAPOLIS DIV., MINNEAPOLIS, MINN.
WINKLEY DIV., DETROIT, MICH. ZERK DIV., CLEVELAND, OHIO
Canadian Factory—CANADIAN WINKLEY CO., Ltd., WINDSOR, ONT.

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SAN FRANCISCO, MONADNOCK BLDG.

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Victor

1½ and 2½ tons

The Victor worm drive motor truck is designed to stand rough usage and to give long and continuous service. That it is doing this is evidenced by repeat orders and its large number of satisfied users.

Victor dealers have the satisfaction of knowing that the Victor will make good on every claim that is made for it.

Your territory may still be open.

Write for particulars.

Victor Truck Company

St. Joseph Michigan

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Saving Gasoline —and Dollars.

Proper protection against evaporation will save from 5% to 20% of gasoline in storage. A necessary economy today.

Dust and dirt in carelessly stored fuel will cause motor and repair bills.

The BOWSER underground storage tank and measuring pump eliminates evaporation, prevents the introduction of foreign matter and insures absolute accuracy in measuring the quantity of gasoline bought, sold or used. Gasoline saving is dollar saving.

There is a BOWSER installation suited to your needs that will give you 100% satisfaction. Ask us for particulars.

S. F. Bowser & Company, Inc.
Fort Wayne, Indiana, U. S. A.

S. F. Bowser Co., Ltd. TORONTO
S. F. Bowser & Co. of Texas DALLAS

Branch Offices in Principal Cities of the World

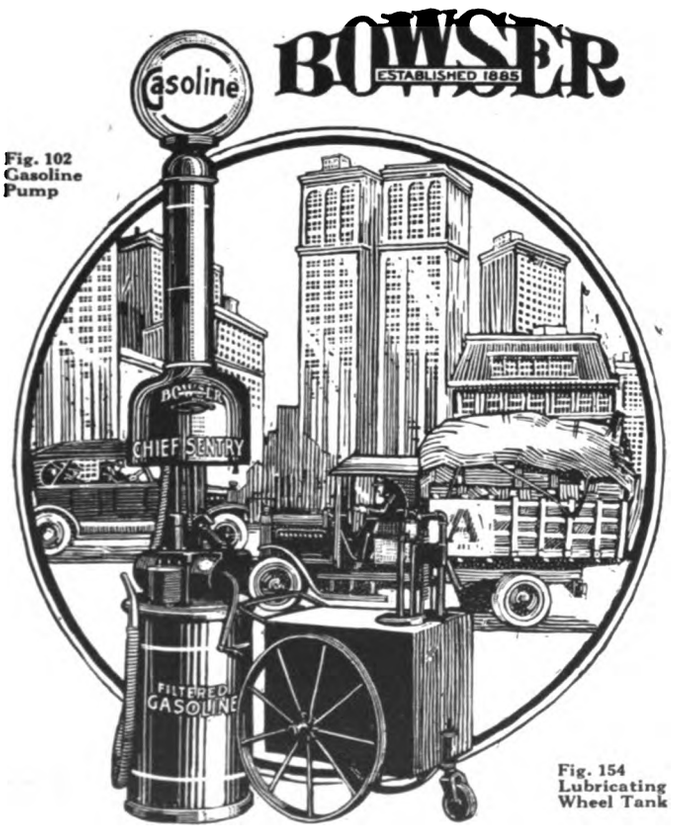
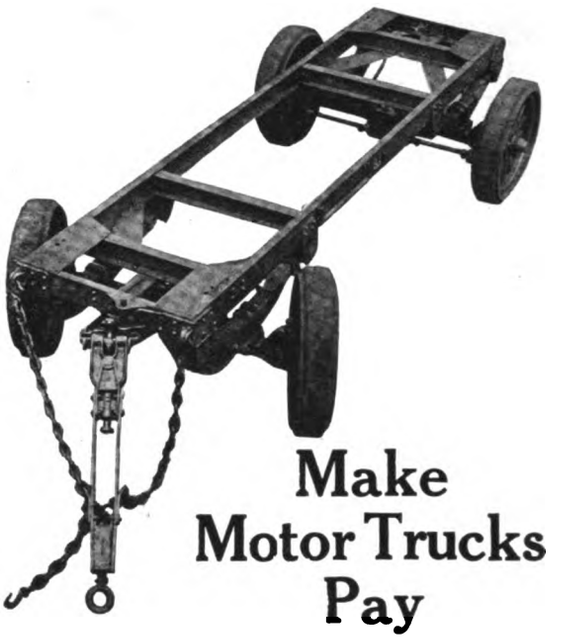


Fig. 102 Gasoline Pump

Fig. 154 Lubricating Wheel Tank

LEE TRAILERS



Make Motor Trucks Pay

If one of your customers asks your opinion about trailers, are you prepared to give him a good trailer talk?

No matter whether he will ever be a truck prospect again, you owe it to yourself to sell him a trailer if you can.

Why not be something more than a truck dealer? Be a transportation engineer and sell trailers incidentally.

Many truck dealers early realized the advantage of selling trailers. Their truck sales have increased.

A wise dealer sells trucks and trailers, preferably *LEE* trailers.

By doing so he makes two blades of grass grow where one grew before.

Send for Lee Line data sheets.

LEE LOADER & BODY CO.

Builders of Automotive Auxiliary Equipment

2337 So. La Salle St. Chicago

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Oversize

STOUGHTON

Greater Dependability

For all roads and conditions of service—with remarkably low operating and upkeep expense—the new Stoughton *Oversize* Truck offers unusual value in dependability and balanced construction. It marks a new standard in truck construction with extra wear in every part but without excess weight.

Sixty-five years of manufacturing experience have given the name Stoughton a reputation to sustain. The mature judgment and knowledge gained through these years have put the new Stoughton Truck in a class by itself. Its performance has proved that it will sustain the reputation of the name.

Three models—1½, 2 and 3 tons, to meet a wide field. Tie up with Stoughton prestige. Write or wire for specifications and details.

THE STOUGHTON WAGON CO.
Stoughton, Wisconsin

TRUCKS

"JASCO"
SAFETY FIRST
TANK

A leaky tank is worse than useless—it's dangerous! Day after day it **costs the motorist money** in wasted fuel—and day after day it's inviting an explosion of fire.

Made of the finest seamless drawn steel — tested and proved — the **"Jasco"** Tank will not leak, no matter how rough the service.

When you see a **"Jasco"** equipped car you'll know that the manufacturer believes in giving his customers the best. Send for booklet and detailed information.

We are prepared to handle contracts for deep drawn steel work. Send specifications.

Janney, Steinmetz & Company
Main Office: Philadelphia
New York Office: Hudson Terminal Bldg.

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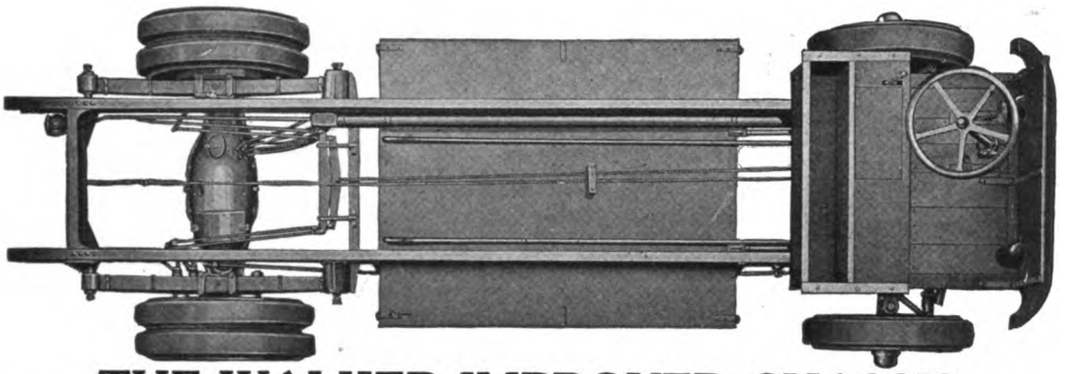
WALKER ELECTRIC TRUCKS



THE WALKER IMPROVED CHASSIS

THE UTMOST IN *SIMPLICITY*—ONE THOUSAND FEWER PARTS THAN ANY GASOLINE CHASSIS
WALKER ELECTRIC CHASSIS ARE OPERATING *PROFITABLY* IN ALL INDUSTRIES

ASK ANY WALKER USER, BRANCH OR DEALER

WALKER VEHICLE COMPANY

America's Leading Manufacturer of Electric Trucks and Tractors

NEW YORK CHICAGO BOSTON

LOWEST-TRUCKING-COST

WATSON
MOTOR TRUCKS

¾-1 Ton 2½ Ton
1½ Ton 3½ Ton

Road Tractor *Trailers*

WATSON MAULAGE SYSTEMS

Watson Products Corporation
Main Office and Factory
Canastota, N. Y.

United States Motor Trucks
FLOATING POWER PLANT

As Good As The Name

Seven models
Five worm-drive
Two with Clark axles
1½ to 6 tons capacity

THE UNITED STATES
MOTOR TRUCK CO.
Incorporated
Cincinnati Ohio

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IN OUR OWN FACTORY

without the aid of Motor Trucks we would have been forced to materially reduce our production because the railroads could not deliver sufficient materials to keep the machines supplied.

Many men would have been without employment and so it is throughout the United States, without Motor Trucks industry would have had to curtail production even more than has been necessary. It is necessary for the welfare of our country to support Good Roads and Motor Trucks.

FULLER & SONS MFG. CO.

KALAMAZOO, MICHIGAN

Transmissions

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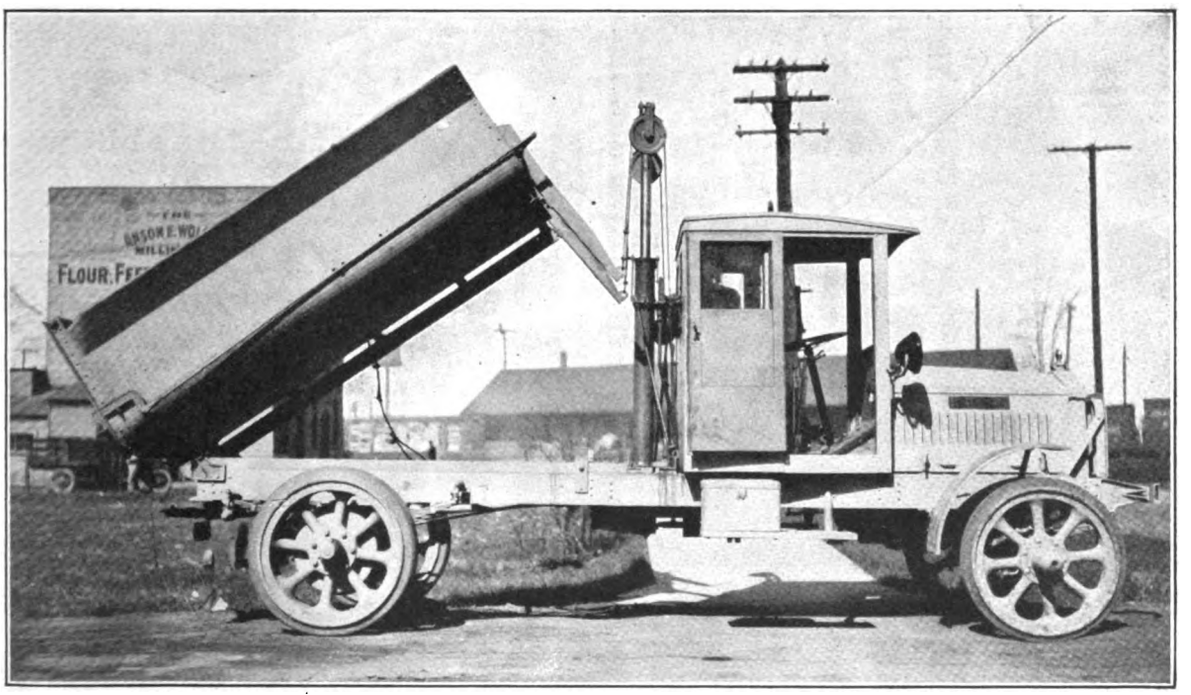

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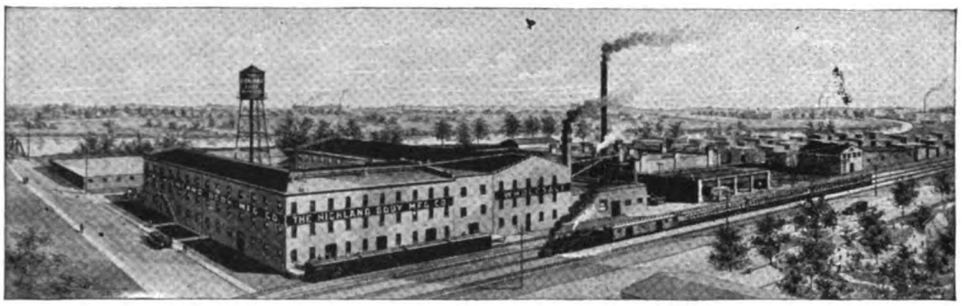

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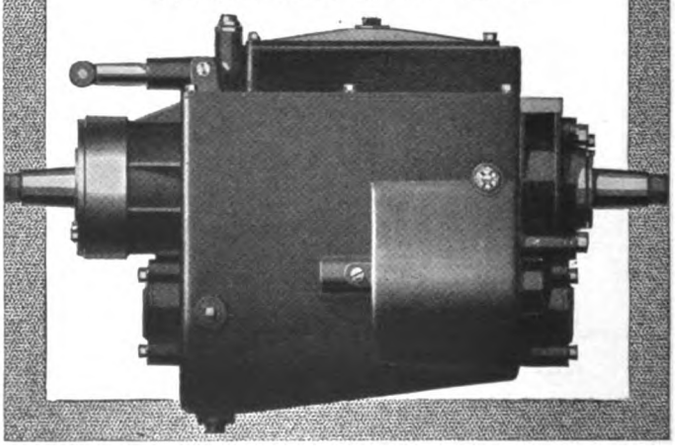

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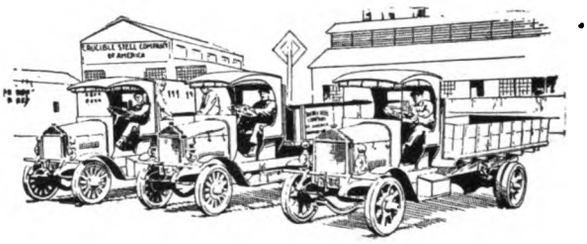

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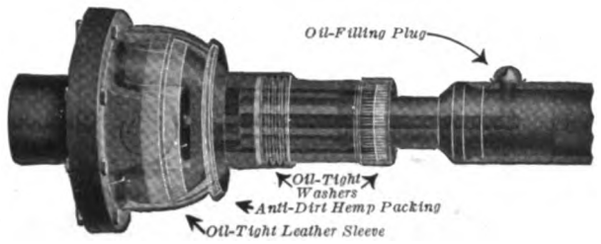

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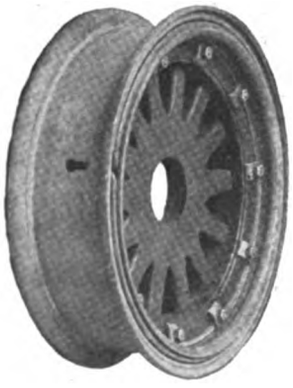

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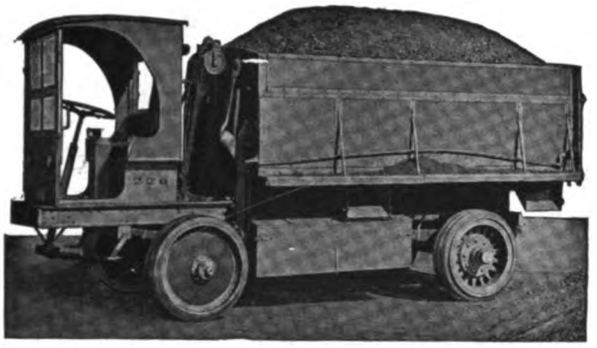

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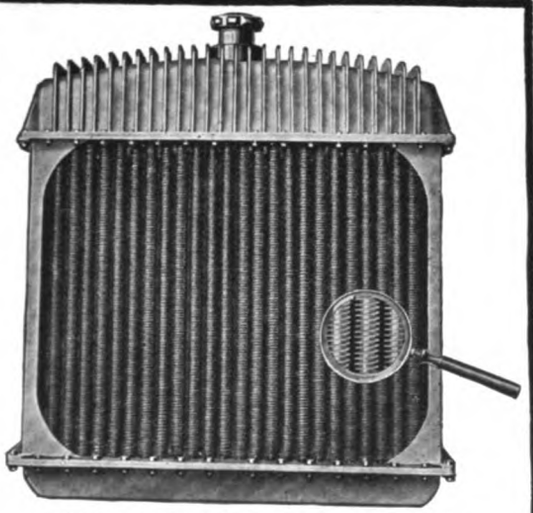

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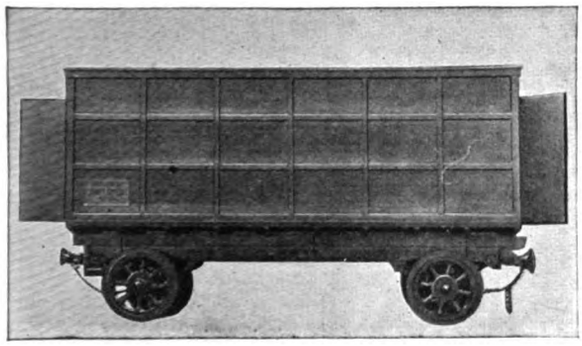

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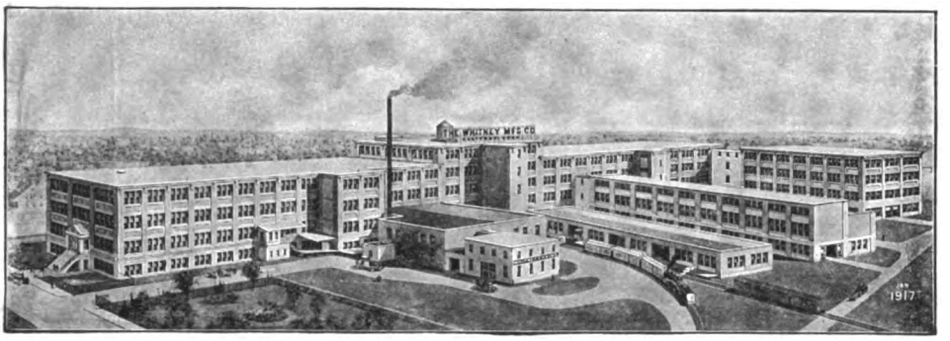

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Silent Type

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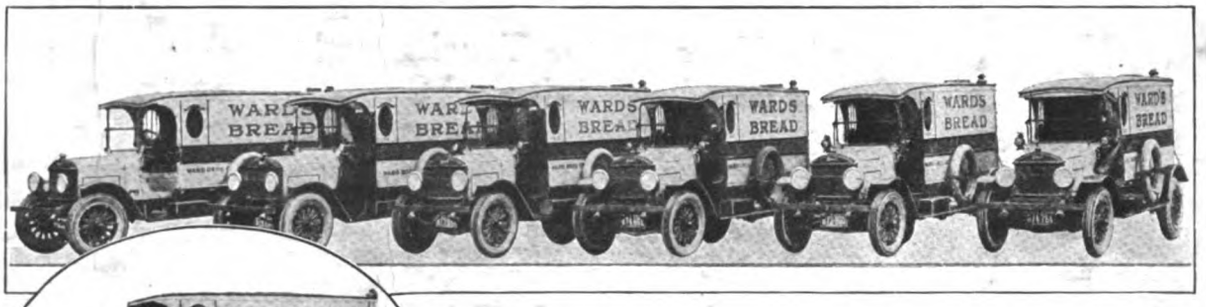

Fleets that grew from one indicate owner satisfaction

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(*Signed*) H. B. WARD, Vice-President.

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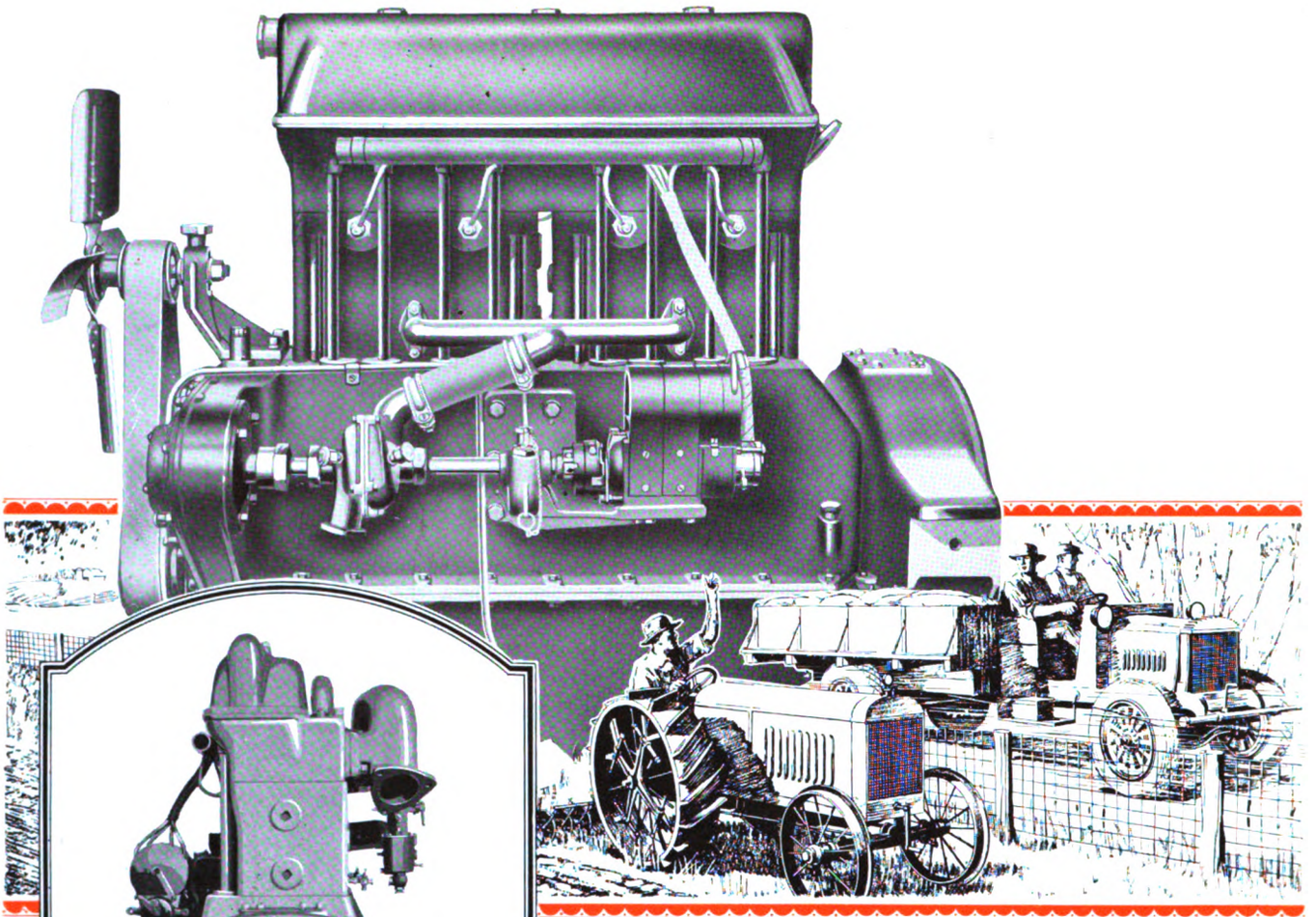

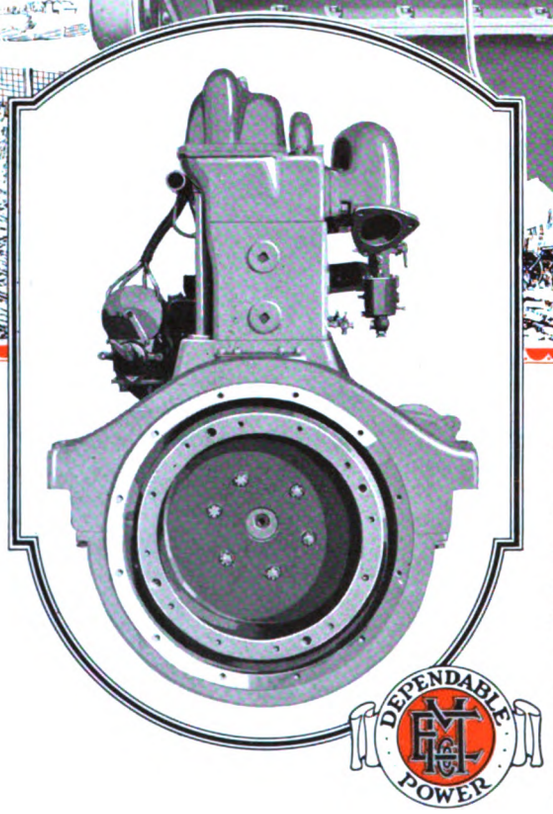

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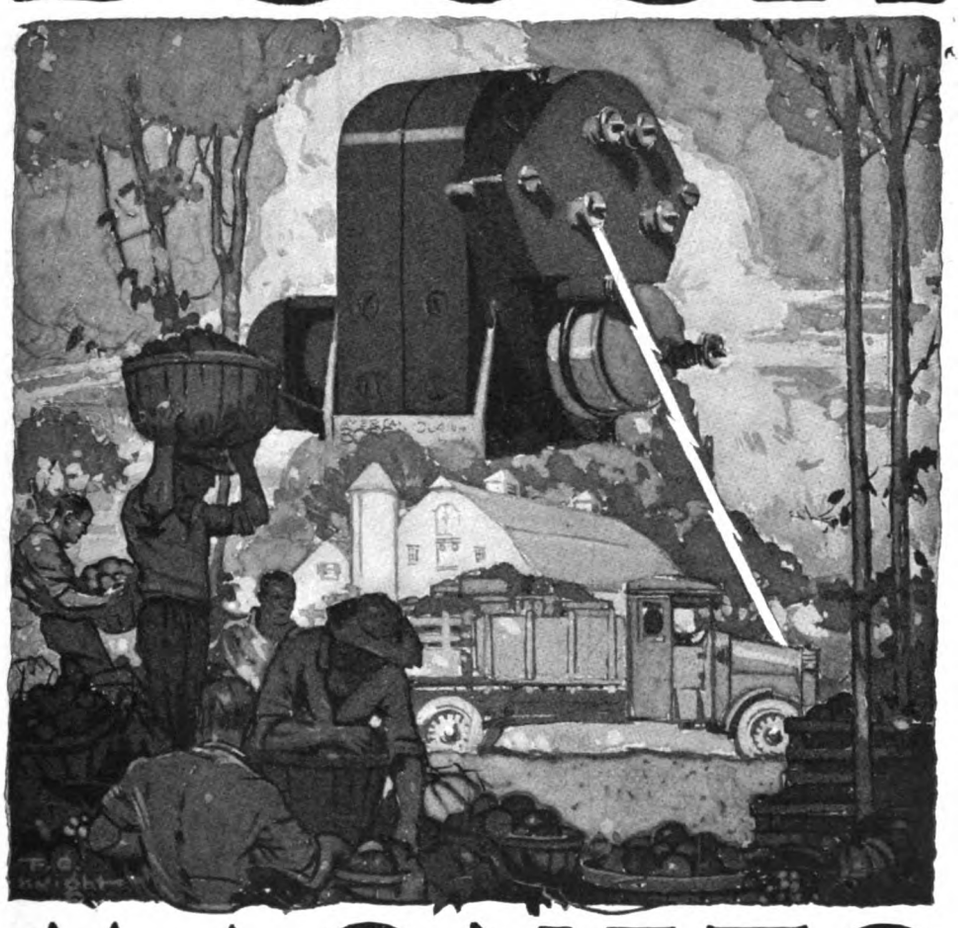

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VOL. XXIV. AUGUST, 1920. No. 189.

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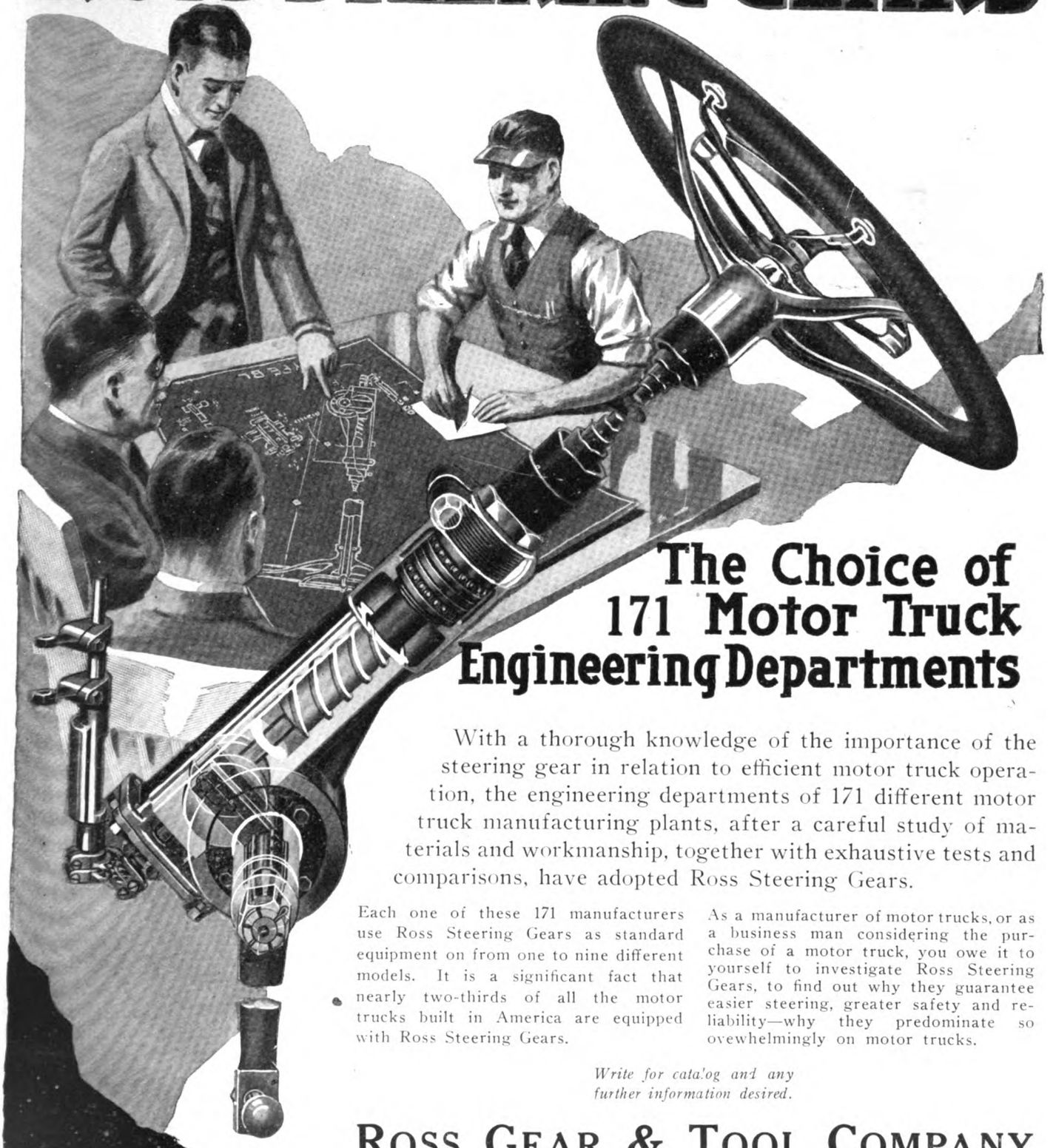
ROSS STEERING GEARS



The Choice of 171 Motor Truck Engineering Departments

With a thorough knowledge of the importance of the steering gear in relation to efficient motor truck operation, the engineering departments of 171 different motor truck manufacturing plants, after a careful study of materials and workmanship, together with exhaustive tests and comparisons, have adopted Ross Steering Gears.

Each one of these 171 manufacturers use Ross Steering Gears as standard equipment on from one to nine different models. It is a significant fact that nearly two-thirds of all the motor trucks built in America are equipped with Ross Steering Gears.

As a manufacturer of motor trucks, or as a business man considering the purchase of a motor truck, you owe it to yourself to investigate Ross Steering Gears, to find out why they guarantee easier steering, greater safety and reliability—why they predominate so overwhelmingly on motor trucks.

Write for catalog and any further information desired.

ROSS GEAR & TOOL COMPANY
780 Heath Street, Lafayette, Indiana, U. S. A.

The Steering Gears that Predominate on Motor Trucks

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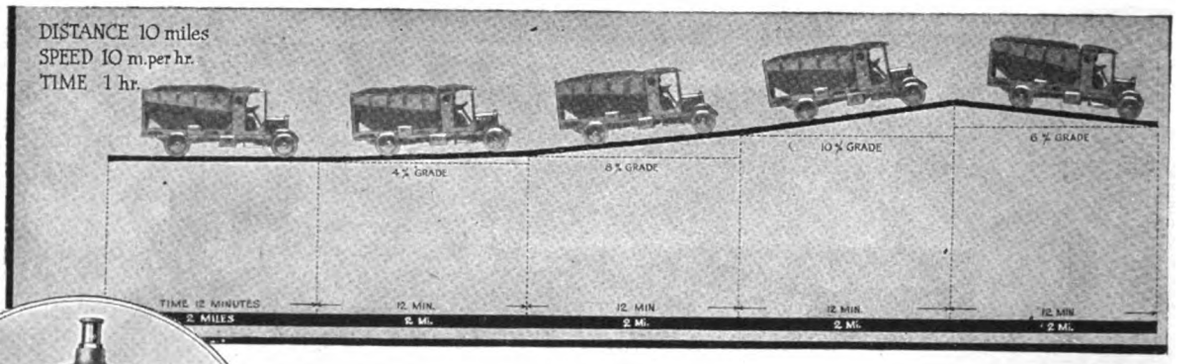

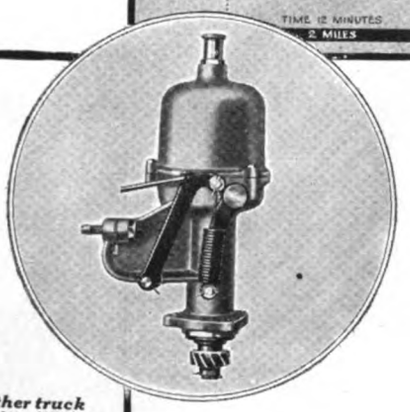

No other truck has it—"The driver under the Hood."

The Speed You Set is the Speed You Get

HOW many times you hear a truck owner say: "If my trucks were driven at the speed they were designed for, they would bring me less worry and more profits." And this is about right, for a draft horse was never meant to do a mile in two flat.

The "racing" of truck motors is perhaps responsible for more repair bills and faster depreciation than any other single factor, and the average governor on a motor does only one thing: it fixes a maximum speed. A logical way to lessen truck abuse is some sort of control which does not allow the motor to race unless the driver deliberately steps on the accelerator.

Such a device is found in the Clydesdale Controller, which automatically increases or decreases the gas supply as *needed* If the hand throttle is set for a truck speed of ten miles per hour, the controller will drive that truck at ten miles, up hill, down hill, on the level, through mud or sand, without the driver touching a thing but the wheel, as long as the motor has power to pull at that speed in the gear engaged.

When the clutch is thrown out, the controller automatically idles the engine while gears are being shifted. In this way a constant truck speed is maintained under all conditions, as long as the throttle is untouched.

The result is a saving of gas and oil, a saving of tires through more uniform traction on the wheels, and a saving of transmission parts through the absence of jerky gear shifts and a motor running too fast for the drive shaft.

To the truck buyer who is not mechanically inclined, the reasons for Clydesdale performance may be a bit hazy. But there is one sure way to appreciate the full value of the Clydesdale Controller—have your dealer demonstrate it with yourself on the driver's seat.

THE CLYDESDALE MOTOR TRUCK COMPANY
CLYDE, OHIO

CLYDESDALE MOTOR TRUCKS

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Transportation by water of granite monoliths for the Hindu temples of Southern India

The pioneering minds and the toiling hands of centuries have built up, block by block and step by step, the structure that supplies us with Power today. For the Modern power-creating organism is merely an assembly of the achievements of ages. ¶ And where Continental motors are produced, recognition of this fact has become crystalized into a policy of constant striving to increase the already-established efficiency of the motor that is known everywhere by the mark on its crank-case—the Continental Red Seal.

CONTINENTAL MOTORS CORPORATION

Offices: Detroit, U. S. A. **Factories: Detroit and Muskegon**

Largest Exclusive Motor Manufacturers in the World

Continental Motors

STANDARD POWER FOR TRUCKS, AUTOMOBILES AND TRACTORS

Please mention "Power Wagon" when writing to advertisers.

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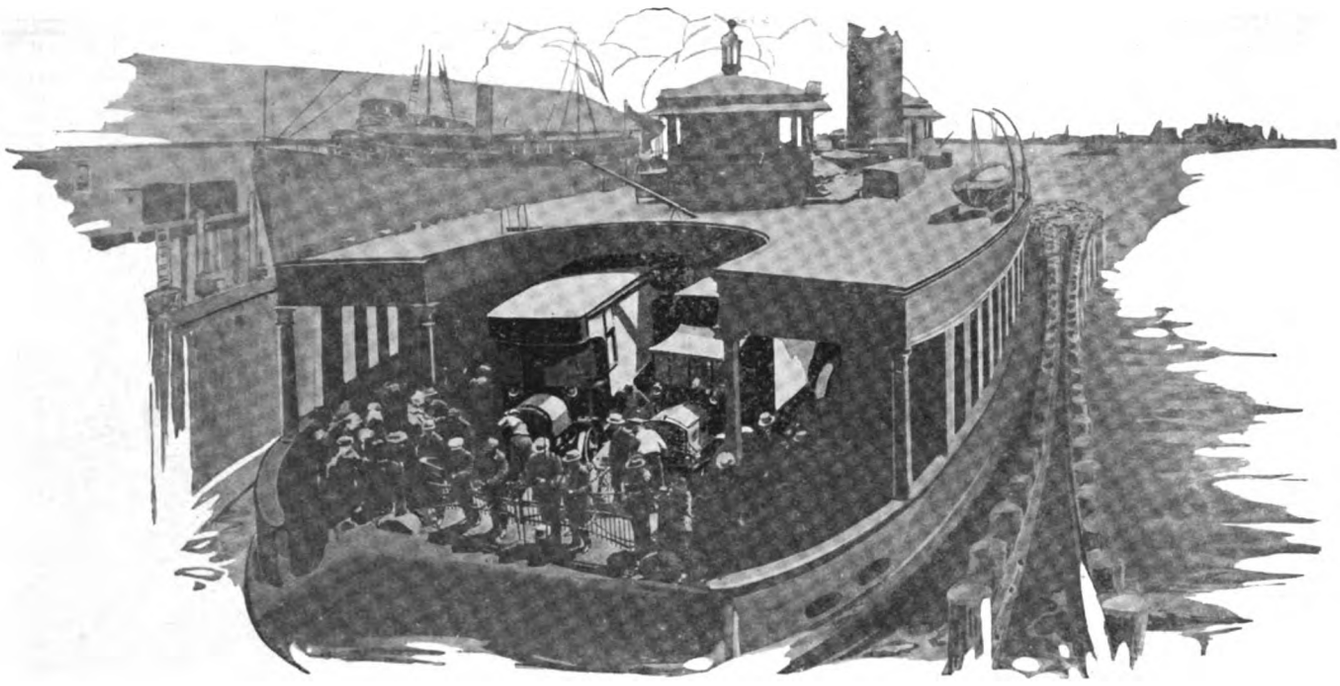

When Every Second Counts

It's at times like this—when a sure start and a quick get-away are absolutely essential—that the

"Exide" Truck Battery

(For Starting and Lighting)

demonstrates its real value and efficiency.

For in spite of the terrific jolting and jarring it receives in solid-tired truck service, the Exide Truck Battery stands up—dependable and strong—where ordinary batteries would be quickly racked to pieces.

The reason is simple: The Exide Truck Battery was originally designed for Uncle Sam's Army Tanks—the roughest service to which a battery can be subjected.

That's why no special mounting is needed to help absorb the shock and vibration.

That's why it will give a long life of service with a minimum expense for repairs.

Write and let us give you more detailed information on this most durable truck battery.

THE ELECTRIC STORAGE BATTERY CO.

Oldest and largest manufacturers in the world of Storage Batteries for every purpose

1888 PHILADELPHIA 1920

Branches in seventeen cities

Special Canadian Representatives: Chas. E. Goad Engineering Co., Limited, Toronto and Montreal

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Dealer Proposition vs. The Truck

CONTINENTAL
BROWN-LIPE
TIMKEN
SHELDON

SIZES

¾ TON
1 TON
1½ TON
2 TON

—in which are you most interested? The dealer contract is merely a *scrap of paper* unless the truck is RIGHT. The Rainier proposition is liberal enough to make it interesting for live dealers.

The principal advantage in being a Rainier dealer is in the trucks themselves. They are made in the most popular sizes and therefore have an ever-ready market—once sold, they stay sold.

Rainier trucks are built with standard units. The method of final drive is the WORM. Rainier trucks are not merely assembled. Every unit is either made especially for us or is selected because of past performance. The result is co-ordination of all parts, and sturdy wearing trucks that stand up under hard continuous service.

Dealers find a wonderful opportunity selling Rainier trucks. Liberal arrangements made with responsible concerns. Good territory is still open. Write today for full information.

RAINIER MOTOR CORPORATION

Sales Department:
225-227 West 58th Street, New York
Factory: Flushing, L. I., New York

Rainier

TRADE MARK REG.

WORM DRIVE TRUCK

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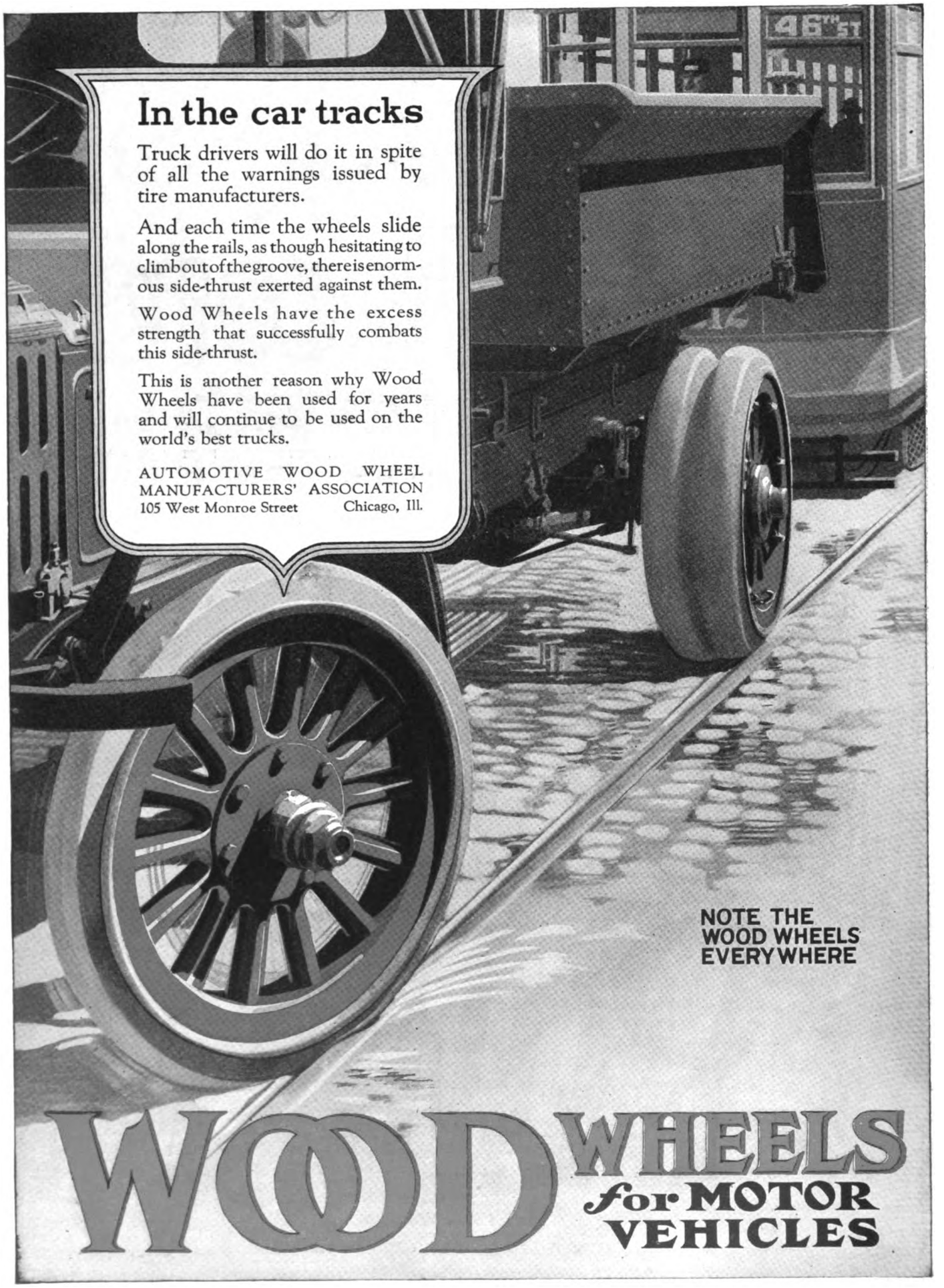
46TH ST
In the car tracks
Truck drivers will do it in spite of all the warnings issued by tire manufacturers.
And each time the wheels slide along the rails, as though hesitating to climb out of the groove, there is enormous side-thrust exerted against them.
Wood Wheels have the excess strength that successfully combats this side-thrust.
This is another reason why Wood Wheels have been used for years and will continue to be used on the world's best trucks.
AUTOMOTIVE WOOD WHEEL MANUFACTURERS' ASSOCIATION
105 West Monroe Street Chicago, Ill.
NOTE THE WOOD WHEELS EVERYWHERE
WOOD WHEELS for MOTOR VEHICLES

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30 Days' Record

With a PATRIOT Motor Truck

65 round trips of 17 miles—Average load one way, 4150 lbs.—Return trip not loaded—Total mileage, 1100 miles—Total cost of operation, $287—Total weight carried, 270,000 lbs.—Cost of hauling, $1.06 per 1000 lbs.

The Rich Charter Oak Copper Co., Encampment, Wyoming, owner of the Patriot Truck shown below, seem to think this is a good record.

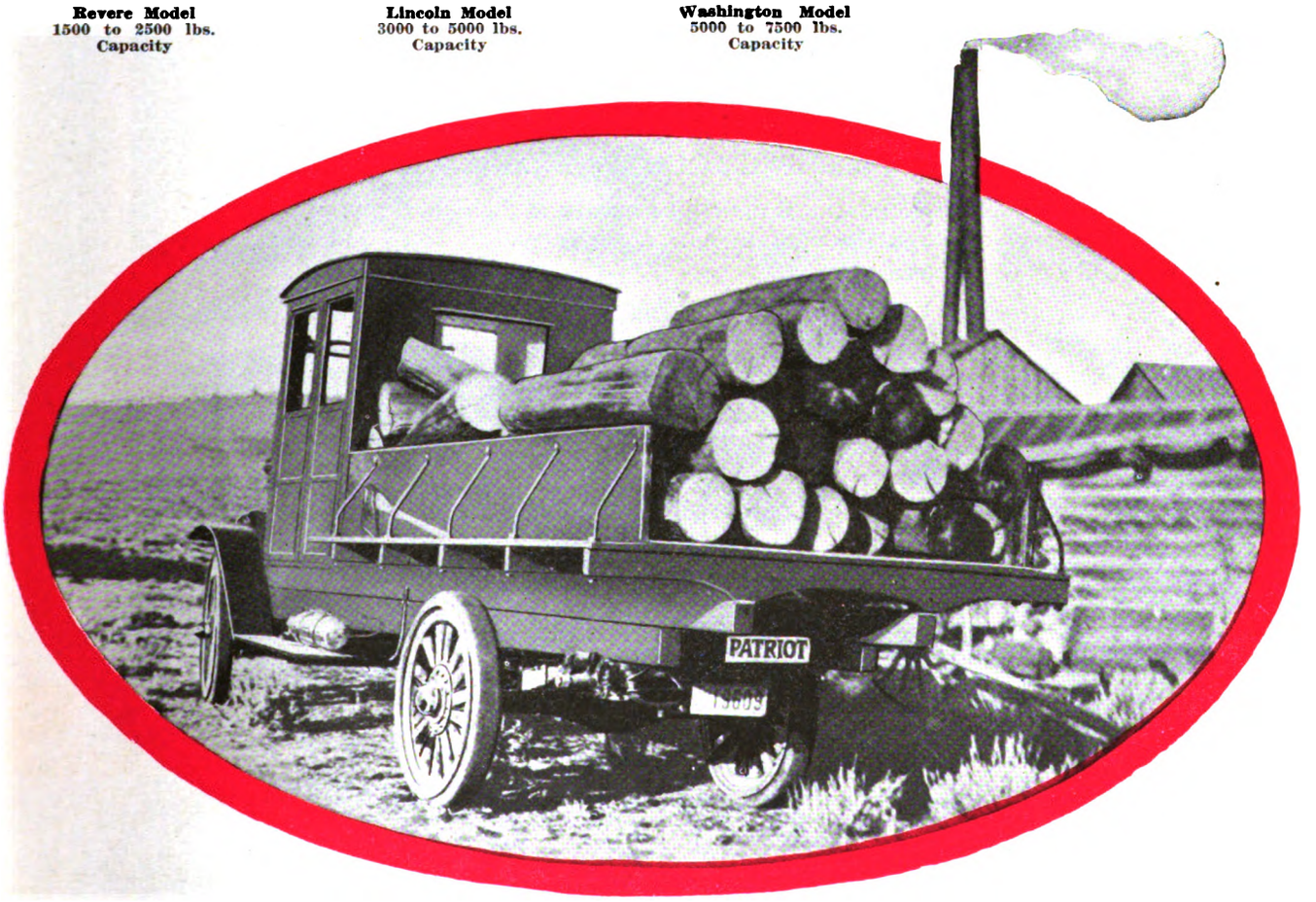
Patriot Motors Co., Manufacturers

1419 P Street, Lincoln, Nebr.

Revere Model
1500 to 2500 lbs.
Capacity

Lincoln Model
3000 to 5000 lbs.
Capacity

Washington Model
5000 to 7500 lbs.
Capacity



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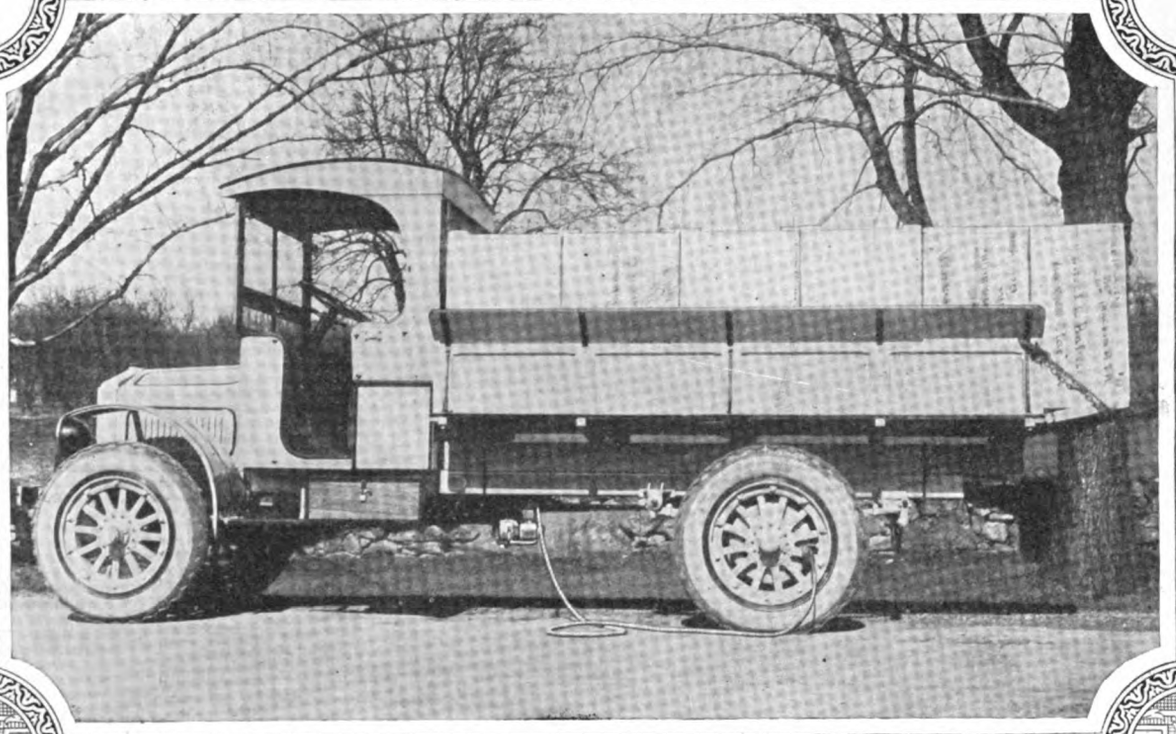


No Motor Truck or Motor Car is completely equipped that is not equipped with a Kellogg Engine-Driven Tire Pump

The Driver Is Never Late
With a Kellogg Pump on the Car

TIRE troubles will not cause him to miss the train or a delivery promise if the truck is equipped with a KELLOGG Engine-Driven TIRE PUMP.

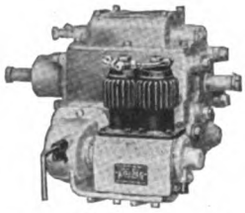
In a few minutes the punctured tire can be inflated to the right degree of pressure by the Kellogg Pump on the transmission. Valuable time is saved and organization good will is not impaired.

On motor trucks KELLOGG Power PUMPS are an absolute necessity. Without them it would not be practical to operate pneumatic tire equipped trucks.

KELLOGG PUMPS are installed as standard equipment on practically all of the leading makes of motor trucks and motor cars manufactured today.

CAUTION

Make sure your motor truck is equipped with a KELLOGG Engine-Driven TIRE PUMP.



KELLOGG MANUFACTURING CO., Rochester, N. Y., U. S. A.

KELLOGG TIRE PUMPS

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Available Trucks?

Why Is the Standard Oil Company a Consistent Purchaser of Available Trucks?

Because, Available Trucks have back of them 11 years of satisfactory service in scores of business fields. They are in use today in mountainous—sometimes roadless—sections hitherto regarded as a stronghold of the pack mule.

Whether it is on the desert, or in city service, the Available is stamping itself as a wonderful performer. Available prestige is an asset of greatest value to the dealer.

We are always glad to hear from progressive dealers who appreciate the wonderful possibilities of Available Truck business.

Made in
1½-Ton
2½-Ton
3½-Ton
5-Ton and
7-Ton
Capacities

AVAILABLE TRUCK COMPANY
North and Kilpatrick Aves.—D 1
CHICAGO, U. S. A.

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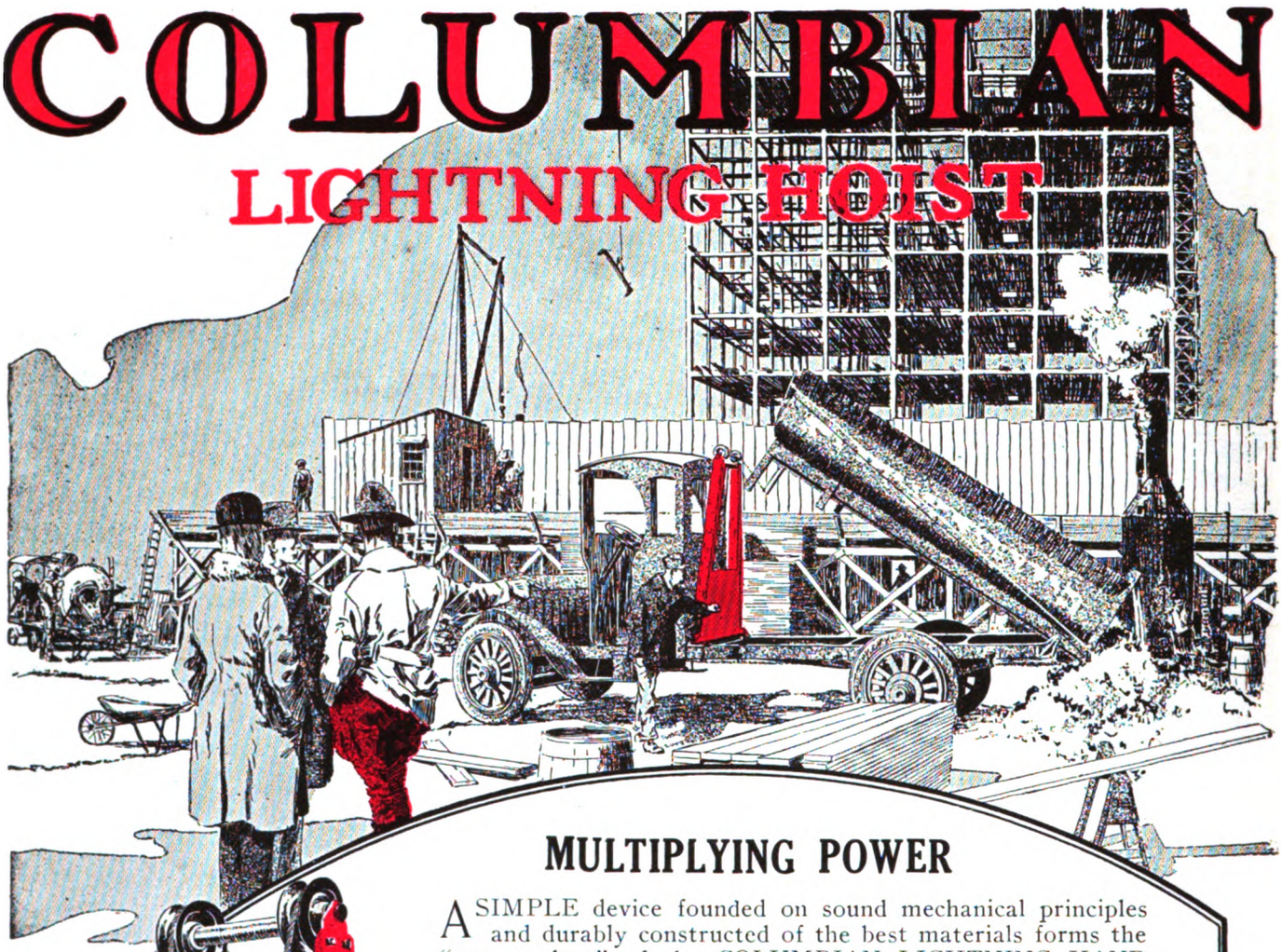
COLUMBIAN
LIGHTNING HOIST



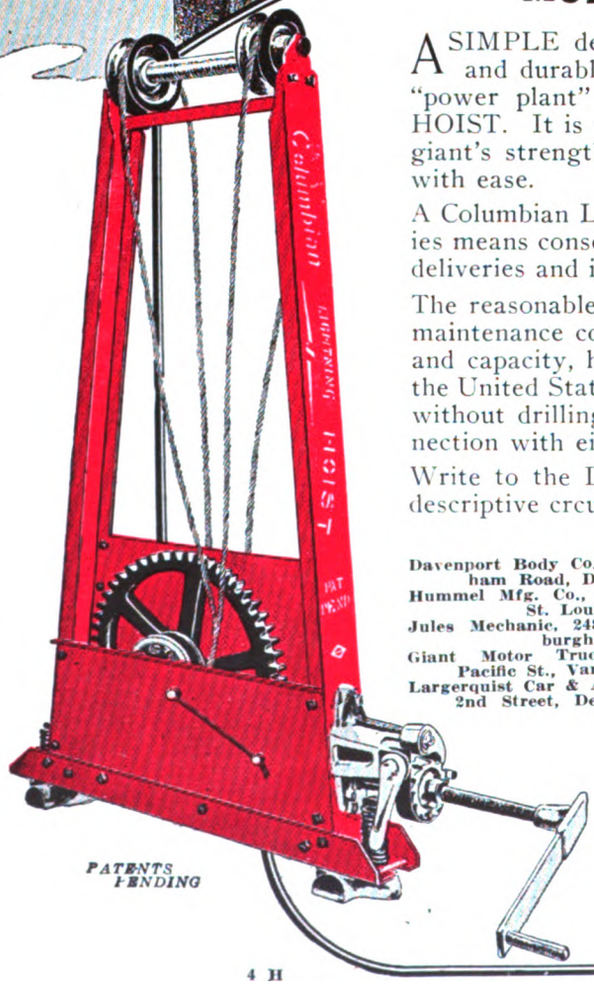
MULTIPLYING POWER

A SIMPLE device founded on sound mechanical principles and durably constructed of the best materials forms the "power plant" of the COLUMBIAN LIGHTNING HAND HOIST. It is this device which gives the Columbian Hoist a giant's strength, and enables one man to dump a 5-ton load with ease.

A Columbian Lightning Hand Hoist on your truck dump bodies means conservation of high-priced labor, more efficiency in deliveries and increased profits for you.

The reasonable first cost, and almost complete elimination of maintenance costs, together with its power, speed, durability and capacity, have made it the most popular Hand Hoist in the United States today. It will fit any chassis and is mounted without drilling holes in the frame, and can be used in connection with either a metal or wooden dump body.

Write to the Distributor nearest to you or to us direct for descriptive crcular No. 89 and further details.



PATENTS PENDING

DISTRIBUTORS:

Davenport Body Co., 1509-33 Rockingham Road, Davenport, Ia.
Hummel Mfg. Co., 3008 La Salle St., St. Louis, Mo.
Jules Mechanic, 248 Croft St., Pittsburgh, Pa.
Giant Motor Truck Co., Granville Pacific St., Vancouver, B. C.
Largerquist Car & Auto Co., 514 West 2nd Street, Des Moines, Ia.
S. S. Albright, 13th & U. Sts., Sacramento, Cal.
Beard & Co., 418 Keller Bldg., Louisville, Ky.
Blackwell Motor Co., Cor. 3rd & Post, Spokane, Wash.
Landes & Co., 2nd, West & South Temple, Salt Lake, Utah
Jacob H. Press & Sons, 300 Halsted Street, Chicago, Ill.

COLUMBIAN STEEL TANK COMPANY

"Tanks for the World" *Established 1894*

1519-1625 W. 12th St., Kansas City, Mo.

4 H

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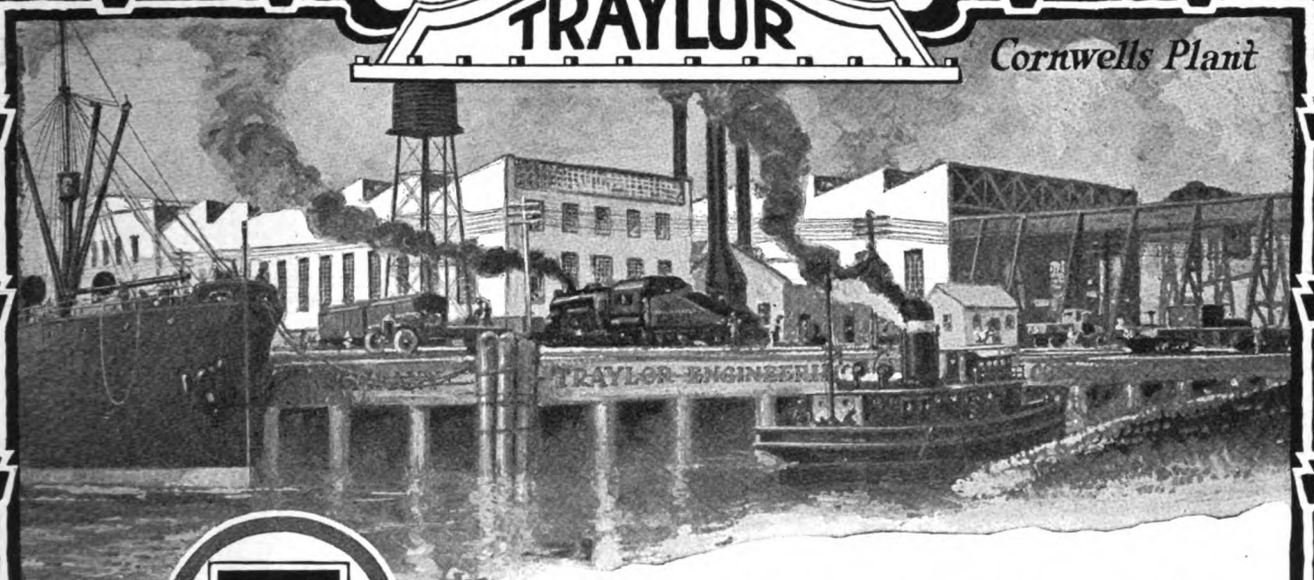
TRAYLOR



Cornwells Plant

"Products of an Old Organization"

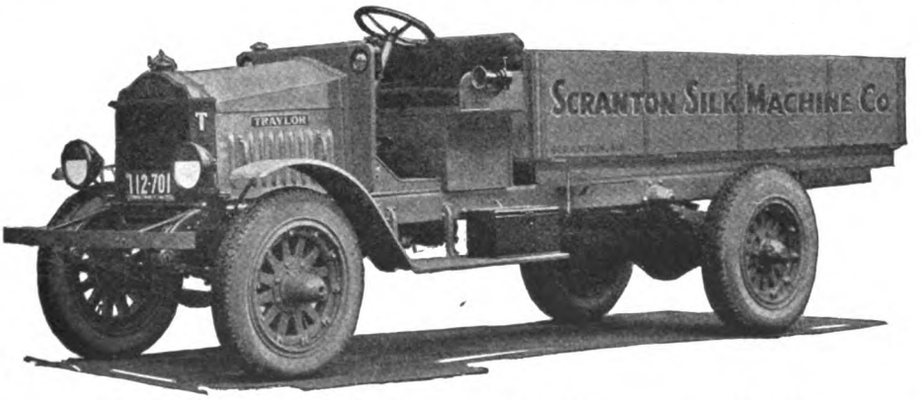
With a production of 10,000 motor trucks and 20,000 farm tractors the Traylor plants mother a community of modern factory built homes for employees that includes club quarters and a moving picture theatre. On the Delaware river, favored by good railroad (main line P. R. R.) and highway connections, shipping conditions are excellent.

Traylor manufactures under conditions not enjoyed by any Motor Truck and Tractor builder in America.

Big production on a quality basis is assured by the dominant influence of Traylor resources--both Financial and Natural.

Territory open to responsible dealers.

Traylor Engineering & Manufacturing Co.
Allentown and Cornwells, Pa.



Allentown *New York* *Chicago* *Pittsburgh* *Los Angeles* *Spokane*

MOTOR TRUCKS & FARM TRACTORS

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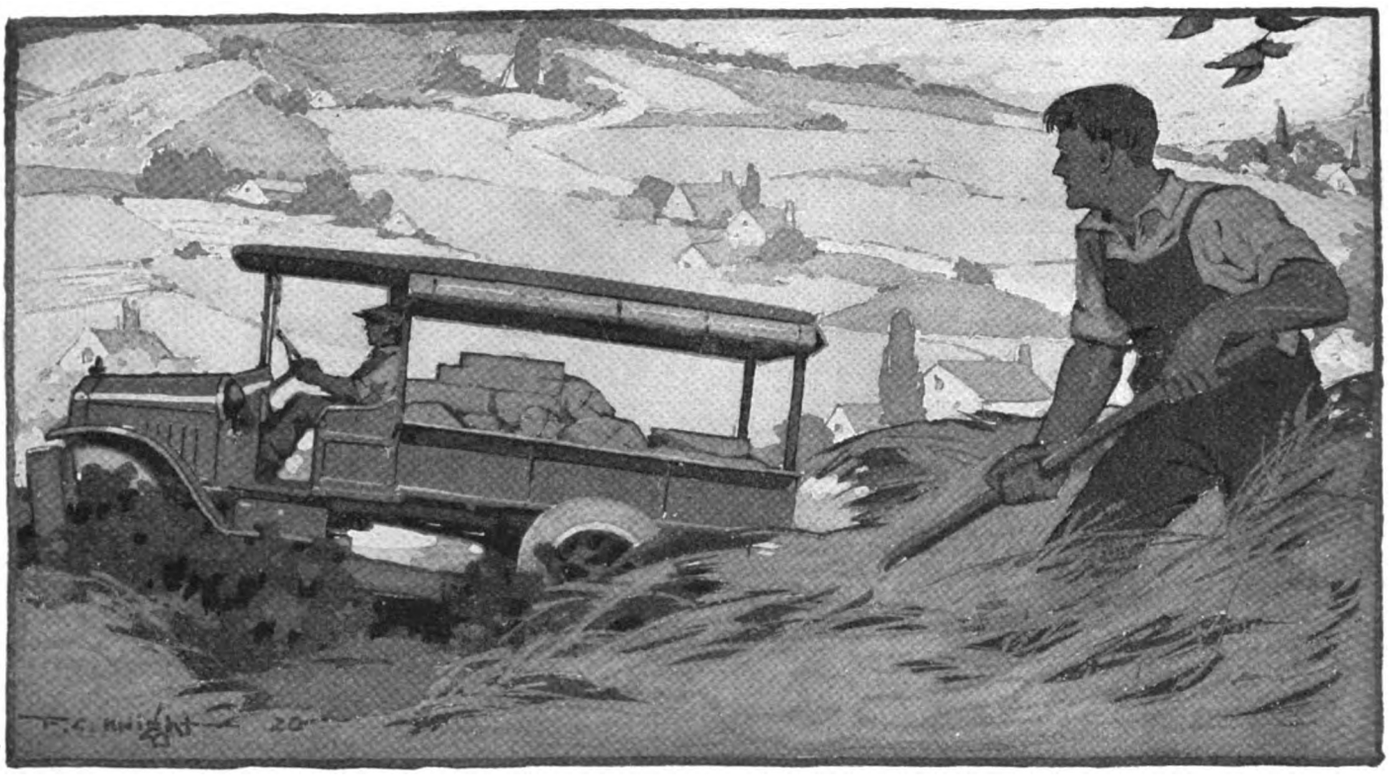

The BETHLEHEM "DELIVERY BOY"

For Suburban Deliveries

The Bethlehem "Delivery Boy" is a swift and sure light truck that opens up a new and gigantic truck sales field.

Someone in your territory is going to add his name to ours and dominate the truck field—Are you the man?

"Delivery Boy" Chassis
1½ Ton Chassis
2½ Ton Chassis
3½ Ton Chassis

BETHLEHEM MOTORS CORPORATION
Allentown Pennsylvania

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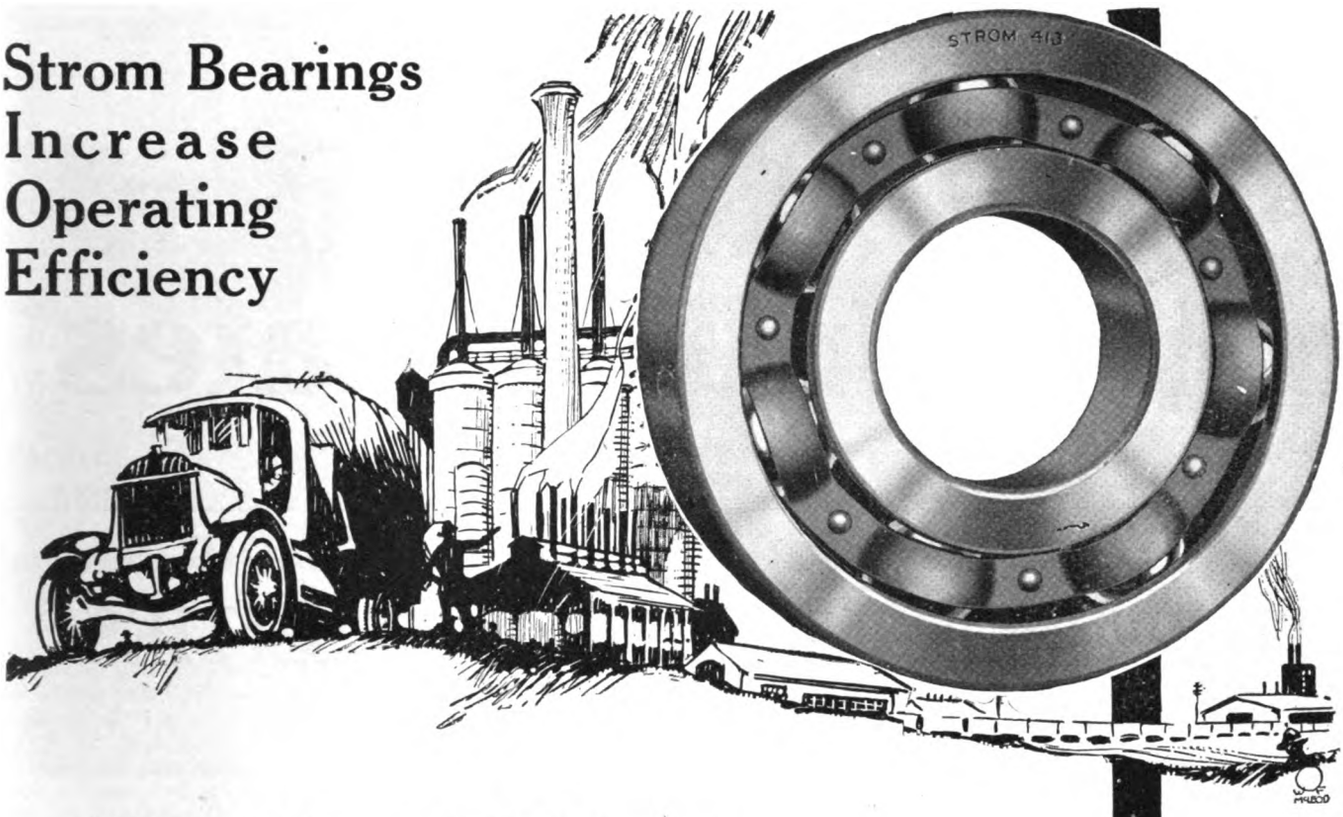
Strom Bearings Increase Operating Efficiency



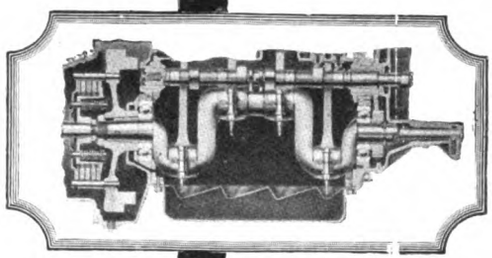
BY use of Strom radial Ball Bearings, rather than plain bearings in mounting motor truck crank shafts, the overall length is reduced.

The bearings give increased efficiency, require less attention and are more accessible.

In solving any bearing problem you are at liberty to call upon Strom engineers.

With their years of experience in installing these fine bearings on all types of machinery, they are able to advise you as to the most scientific and economical type of bearing to use under any given conditions.

U. S. BALL BEARING MFG. CO.
(Conrad Patent Licensee)
4535 Palmer Street Chicago, Illinois



The radial bearings in this style of mounting are easily accessible.

Strom BEARINGS

(66)

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The Next President of the United States

Must be a man who realizes our TRANSPORTATION NECESSITIES

First: Building of Highways
Second: Railway Requirements
Third: Waterways Usefulness
Fourth: Air Possibilities

It is Imperative!

THE AUTOCAR COMPANY
Established 1897
ARDMORE, PA.
Manufacturers of the Autocar Motor Truck

First published in Chicago newspapers, June 10, 1920

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POWER WAGON

VOL. XXIV. CHICAGO, AUGUST, 1920. No. 189.

Parmalee Company Starts Motorizing Its Equipment

CHICAGO'S AUTHORIZED TRANSFER AGENT

For more than half a century the Frank Parmelee Transfer Company was closely identified with the transportation problems of Chicago and especially has this close relationship between the company and transportation been true with respect to the transfer of passengers and baggage from one railway station to another, the transfer company being the one authorized agent of the railways. As best it could this company met the problems of a rapidly increasing traffic with horse-drawn vehicles. Recently the company went through a reorganization and with a change of name to The Parmelee Company came a change in methods. The new company has begun the

(Continued on page 24)

Magneto Sales Reflect Tone In Automotive Markets for 1920

The statement of the Eisemann Magneto Corporation for the first six months of 1920 throws light on the situation of the automotive industry as a whole since its position is directly reflected in the production of ignition apparatus.

Orders and contracts on hand January 1, 1920, totaled $2,978,362 or a million and a half increase over the corresponding date of 1919. Orders and contracts on hand July 1, were $3,442,380 or an increase of 100 per centum over July 1, 1919.

Net sales for the first six months of 1920 were $2,316,482. For the last six months of 1919 sales were $1,665,681, the first six months of 1920 showing an increase over the preceding half year of $650,000.

Ohio Gets Tractor Show

Columbus, Ohio, July 20.—The Tractor and Implement Club, through its president, W. J. Longbon, announces that a national tractor show will be held in Columbus at the State Fair Grounds during the week of February 6. This will be the only national show of the year and every effort will be made to make it a success. The co-operation of the State Agricultural College has been secured as well as that of the Columbus Chamber of Commerce and other civic organizations.

Gasolene Shows Big Gain

Gasolene supplies are increasing nationally and on the Pacific Coast, according to United States Bureau of Mines figures and the American Petroleum Institute.

The bogey of shortage is being dispelled by the official reports which show that during April, the latest month for which there are figures, production of gasolene was 2,829,931 gallons ahead of the demand. Consumption was 8,591,912 gallons, whereas output was 11,421,843 gallons. Reserve stocks increased to 643,552,644 gallons, which showed a considerable gain on the March figure of 626,393,046 gallons in reserve.

Chicago Doesn't Want Show

Following the decision of the N. A. C. C. the motor truck dealers in the Metropolitan district of New York called a meeting and decided to stage a show of their own the same week as the passenger car show, January 8 to 15. New York City dealers are very enthusiastic over the prospect of managing their own show and have been assured of the support of the national chamber. At this time it can not be foretold what action will be taken by the Chicago dealers along similar lines but prospects are not bright for a Chicago motor truck show. Many of the Chicago dealers are openly opposed to any plan for a 1921 show.

Names New Committee

The number of representatives on the Motor Truck Committee of the National Automobile Chamber of Commerce has been increased from five to seven members. The new committee is made up of the following members:

Windsor T. White (White), chairman; George M. Graham (Pierce-Arrow); Victor L. Brown (Sterling); M. L. Pulcher (Federal); R. H. Salmons (Selden); Ray C. Chamberlain, (Packard); A. J. Whipple (Diamond T); D. S. Ludlum (Autocar); D. C. Fenner (Mack) and F. W. Fenn (N. A. C. C.), secretary.

Harris Out of Bethlehem

"Hi" Harris, sometimes known as H. F. Harris, has completed his work with the Bethlehem Motors Corporation and has resigned as its president. About a year ago Mr. Harris was made general manager of the company, taking the place of Arthur T. Murray, during the latter's absence on other important business. Mr. Murray has been recalled and is again in charge of Bethlehem interests.

Trucks May Have to Tote Sales Tax After Revision

SOLONS SEEM TO FAVOR SUCH IMPOSTS

WASHINGTON, D. C., July 24.—Scarcely a day passes but that there are received in Washington from various sources within the commercial motor vehicle industry and allied trades pointed questions as to what may be expected from congress at its next session with respect to an overhauling of our federal taxation system. It is not merely that men in the industry are curious as to whether or not they will be called upon to continue indefinitely the payment of the special tax upon motor vehicles, tires, etc. Aside, from this obvious point of contact between the motor truck trade and the taxation proposition, there is manifestly

(Continued on page 24)

Federal Reserve Encourages Sound Motor Truck Credits

In response to urgent requests for some definite ruling concerning the discounting by banks of motor truck paper, the governors of certain important Federal Reserve Districts have announced a position which appears to be most favorable to the motor truck industry.

The common excuse among bankers for refusing credit on motor truck paper is certain supposed rulings of the Federal Reserve Board. Statements made by some of the governors, however, show conclusively that there is no ruling of the Federal Reserve Board which restrains any banker from extending all reasonable credit to motor truck buyers.

David Thomas, General Manager of The Motor Truck Manufacturers' Association, with headquarters in Chicago, has spent considerable time in Washington with Federal Reserve officials, in behalf of the leading motor truck manufacturers. Through other sources, also, he has endeavored to trace the causes of the credit problem which has proved so troublesome for both makers and dealers in motor trucks.

He says: "The position which the Federal Reserve Board has taken is most satisfactory to the motor truck industry. It is not discriminating for or against any industry by name. Its position is so clearly stated that if the motor truck were fully appreciated by the public and the bankers, there would be no motor truck credit difficulties."

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Trailer Maker Advocates Pneumatic Tire Treads

GIVE SPEED AND TRACTION, SAVE REPAIRS

The trailer follows the motor truck, both on the road, and in the actual development of these two related hauling units. Naturally the trend towards the pneumatic tire applies to the trailer as well as to the motor truck.

Trailer manufacturer have had sufficient actual experience, hauling under every conceivable condition, now to declare that pneumatic tires mean a saving in depreciation on both motor truck and trailer, a saving in repairs, particularly on the motor trucks; a saving in fuel and a saving of engine troubles. High speed is made possible, an important consideration for companies engaged in intercity transportation. "We have acknowledged the fact" says one manufacturer, "that any vehicle will have to stand considerably less punishment when equipped with pneumatic tires by adding ½ to 1-ton additional capacity to the rated standard capacity of solid tire equipped trailers.

"More motor trucks each day are being equipped with penumatic tires, in consequence of which fact it becomes necessary to dispense with the solid pressed on tire as trailer equipment, as fast as possible It is fallacy to try to make a solid tire equipped trailer operate economically and successfully behind a pneumatic tire equipped motor truck as such a method will mean either the retarding of the motor truck to the speed limited by the solid tire on the trailer, or to endanger the load on the trailer if the speed compatible with pneumatic tire on the motor truck is maintained.

"Giving due consideration to this new and most recent development in the field of trailer operation, Warner trailers are now largely pneumatic equipped, as we find that this equipment insures better traction, especially over soft roads, and removes the tendency to skid on wet pavements, and on hard, country roads covered with a slimy surface after a rain.

"We have had occasion to observe that solid tires are usually allowed to run down ½ inch or less in thickness before they are replaced, which means that the last few hundred, or even thousand miles, will be run on a tire which, as to resiliency is about as bad as a steel tire. The pneumatic tire, on the other hand, must be replaced when it is partially worn out, but will give full resiliency as long as there is enough tire left to hold the air.

"From these few points it can clearly be judged that the pneumatic tire is desirable as equipment, both on motor truck and trailer, because of the extra speed, better traction and saving in depreciation.

"The trailer as a hauling unit has, within the last twelve or fourteen months, been getting the recognition it deserves. Trucking costs demand the increased capacity which the well-built trailer provides, and the dealer who sells a motor truck now, if he is an up-to-date dealer, will sell his customer proper transportation, by selling him both truck and trailer."

GMC Financial Report Shows Condition of Automotive Market

General Motors Corporation sold 119,779 passenger cars, motor trucks and tractors in the three months ended March 31, last, which with the revenue derived from sale of its various other products accounted for net profits of $19,754,516 after federal taxes. Production in the following quarter showed little change from that of the first three months, so that earnings should be about on a par with those of the first quarter. On this basis net profits for the six months ended June 30 were approximately $39,500,000 after federal taxes, compared with $31,194,164 for the same period last year. After preferred and debenture dividend requirements this would be equivalent to about $2 a share on approximately 18,541,000 shares of no par value common stock. This is at the annual rate of $4 a share and compares with $36.36 a share earned on 1,534,100 shares of $100 par value common stock last year (that is, $3.63 a share on 15,341,000 shares on present basis).

Although there has been a noticeable let-up in the automobile business over the past few weeks General Motors is practically assured of a ready market for every passenger car, motor truck and tractor it can turn out during the balance of this year. Whether current earnings can be maintained or increased in the last half of 1920 depends mainly upon ability to secure sufficient raw materials.

Electric Vehicle Show to Take on Added Importance This Year

Virtually every manufacturer of electric vehicles will be represented at the New York Electrical Exposition to be held at the Grand Central Palace October 6-16.

The electric vehicles this year will be grouped on the 47th street side of the second floor instead of being scattered among the various household and manufacturing exhibit as in former years. With the vehicles thus grouped, this section of the show will resemble very closely the automobile shows of the past. In view of the fact that the commercial car show by the Automobile Chamber of Commerce is not to be held this year, this electric vehicle exhibit takes on added importance.

Among the electric vehicle manufacturers who will exhibit are the Baker R. & L. Company, The Commercial Truck Company of America, Lakewood Engineering Company, The Lansden Company, The Oneida Truck Company, Steinmetz Company, Walker Vehicle Company, and The Ward Motor Vehicle Company.

National Gas Engine Convention

The 13th annual convention of the National Gas Engine Association will be held in the Congress Hotel, Chicago, September 1, 2 and 3. Secretary Fuller promises all members that the meeting this year will be the best one ever held and asks that those who attend make early hotel reservations.

Minneapolis Proposes New Motor Truck Depot

OUTGROWS OLD QUARTERS IN A YEAR

After one year of operation, during which it has built up a business which taxes the capacity of its commodious rented quarters, the company operating the motor truck terminal and transfer station in Minneapolis has announced plans for construction of a huge building of its own, with loading platforms which will accommodate 109 motor trucks at one time.

The terminal company does not operate motor trucks of its own, concerning itself only with the operation of the depot, which is used on a fee basis by the numerous independent companies operating out of Minneapolis over regular routes. At present 150 tons of package freight are handled daily.

This terminal system, which is said to have reached its highest perfection in Minneapolis, is recommended for adoption by motor transport companies generally throughout the United States. In a recent bulletin the advantages are pointed out at length. In part the bulletin says:

"At the terminals of routes, if the operations assume large enough proportions to require a fleet of motor trucks, it is well to establish central receiving stations, where the machines can make delivery and pick up loads, thereby freeing themselves for trips between terminals. Delivery from the terminal stations to consignees generally can be accomplished much cheaper by smaller and lighter equipment.

"Where there are a number of operators entering one city, each covering a different route, it has been found economical to establish a common central terminal, with each company bearing a proportionate share of the maintenance expense. This arrangement is not only in the interest of the operators, but also of the shippers, since cargoes which have a half dozen or more destinations can be sent to the terminal as part of one load."

Minneapolis firms are doing a tremendous business in the territory within 100 miles of the city by using the facilities of these rural motor express lines. Salesmen who go out and take orders and promise delivery the following morning have no difficulty in disposing of goods.

Seek Good Roads Adviser

Cleveland, Ohio, July 23.—The Cleveland Commercial Car Dealers' Association has called on all the local civic organizations to forget their differences of opinion on the subject of damage to roads and the best methods of road building and maintenance and to devote their efforts along constructive lines that will assure betterment of road conditions. As a measure of immediate relief the association has asked for funds with which to hire a good roads adviser. The association also proposes to take out of the hands of county authorities all road building and place it in the hands of a competent centralized State Highway Department.

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Haulers Fail to Agree on Organization Plans

HOLD SEPARATE CONFERENCES IN JUNE

The National Team Owners' Association held its eighteenth annual meeting, June 26-30 in Chicago. The main purpose of the meeting was reorganization as the National Team and Truck Owners' Association. The call for the National Organization of Truck Owners brought also delegates of many local motor truck owners associations to Chicago, who met in separate conference, June 26 to 28, to take into consideration, from all angles, and especially from the logical and practical business standpoint, the pros and contras of success of an early national organization of motor truck owners associations.

Both meetings developed interesting projects.

While the latter went to work cautiously before taking definite steps in preparing a national program, and deemed it necessary to call a second conference at the end of August, at Atlantic City, to build up a sound basis to stand on according to experience gained from the first discussion and exchange of opinions, the team owners proceeded without delay toward national organization.

It seemed not a comprehensive problem for them, since they had virtually only one interest to deal with, the interest of cartage, or draymen, or commercial haulers. The announced "National Organization of Motor Truck Owners" was therefore not the real issue of the meeting, but "organization of commercial haulers."

The motor truck owners' associations, as represented in their conference, include in their membership all motor truck owners without distinction. An organization of this kind, whether local or national, must really be recognized as a "modern commercial movement" that may become a decisive factor in transportation matters, and may extend its aims from the original standpoint of protection of motor transport toward advancement of all commerce and industry, toward education and progress in general, toward evolution of transportation including road construction. The influence is strictly economic, educational and progressive; therefore, such a program must also improve the welfare and interest of the public in general.

The name, Motor Truck Owners' Association, is now frequently proposed and adopted by bodies organizing as cartage or commercial haulers' associations. They include as members only those who own motor trucks for hire, and exclude those who operate motor trucks for their own use in their own business. Their program affects only the hauling industry and deals with their local affairs, operating cost, personnel, legislation, etc.

Identical interests, common to all towns and in all states, that require watching and protection, have proposed the plan for national organization. A haulers' clearing house for anything that affects the haulers interest became an important, new feature at the convention.

It is obvious that the aims of the two organizations are progressing on two lines, while co-operation should be effected; the one is concentrating upon one interest; the other is endeavoring to serve all without regard to trade or interest.

The question, therefore, becomes imminent, since the program of the real Motor Truck Owners' Association is conceived on a liberal, broad, industrial, scientific basis, whether the national and also local organization of truck owners would not offer better advantages, protection and support to the haulers, if they would organize as a local branch within the greater Motor Truck Owners' Association, and co-operate and pull together in one direction for the organization of the entire local traffic under local clearing house direction.

Such clearing house direction would even demand local organization of trades, as of cartage man, of the coal, lumber, packing, grocery and drug industries, etc., for efficient and economic co-operation and regulation of the complicated, wasteful unorganized system. These industries then would represent branches of the one general association; they would appoint their own delegates to make up and constitute the general governing board; each branch could work out its own solution as it saw fit, while, at the same time, it would enjoy the support and prestige of the other branches and of the main organization.

Fuel Oil Should Be Conserved But Future Supply Is Assured

Motor vehicle users need to continue a careful conservation policy with respect to gasoline as the rate of consumption increase during the past four months was 33 per centum, as against the rate of increase in production, which was 13½ per centum. This means that inroads are being made on the potential supplies of crude oil. William Albert White, however, makes some reassuring statements on oil. Mr. White is the inventor of the low pressure oil feeding system which has been installed in 700 ships. He does not believe that the increase of oil burning ships will exhaust the supply of petroleum, but sees a great future producer in Mexico.

"The rapid development of fuel oil burning on shipboard," says Mr. White, "and particularly its adoption by the leading steamship companies, leads to the question: 'Is the production of fuel oil assured?' The answer is unquestionably, 'Yes.'

"The present daily potential production of Mexico (but not exported) is around 278,160,000 barrels a year, and this out of a very small percentage of the petroliferous area."

Prices Delay Road-Makers

Lake County, Illinois, highway officials have decided to abandon their $1,000,000 concrete road project for 1920, after investigating in Kane County, which is substituting satisfactory gravel roads for $500 to $600 a mile, whereas bids for concrete work in Lake County are approximating $46,000 a mile.

Automotive Trade-Marks To Have U. S. Protection

NEW LAW TO BE BIG BENEFIT

WASHINGTON, D. C., July 24.—Coincident with the news that Carmo, the Portuguese pirate of American motor marks, has consented to relinquish possession of the American motor truck trade-marks that he had misappropriated in the 13 countries that are parties to the Berne Convention, comes the announcement that the United States Patent Office is at last in a position to give effect to the important new trade-mark law enacted by congress at its last session. This new trade-mark statute is of especial significance to commercial motor vehicle interests for several reasons.

The impression is general in trade circles that the sole purpose and effect of the new law is to facilitate the registration in foreign countries of any and all American trade-marks by making it easy for each mark to secure the certificate from the United States Patent Office that is a prerequisite of registration in the average foreign country. That is, to be sure, the primary object of the new law and it is a function that will be most helpful to men in the industry who desire to register their marks overseas in anticipation of export sales campaigns. There is, however, another side to the situation, one that has had to date no recognition in the trade, that will confer benefits even more widespread.

As a means to the end of simplifying trade-mark registration abroad of United States trade names, the new law makes it posible to enroll in Uncle Sam's official register many marks that were ineligible heretofore. This will prove a boon for motor truck men because the trade names of many commercial motor vehicles have heretofore been barred from entry at the Patent Office for one of three reasons. Either these names were geographical names or descriptive words or the surnames of the makers. The latter, especially, have caused many complications. It is the most natural thing in the world for a motor truck builder to desire to give his name of machine his own name, but under the law, heretofore, in force, a name that was merely a surname, not distinctively displayed, was not supposed to have registration. Under the liberal new law, however, any name or mark that has been in use for a year or more may be registered, provided, of course a name or mark nominated for registration is not identical with another mark already in use on the same class of goods.

Graham Promoted

George M. Graham has been promoted from sales manager of Pierce-Arrow to the vice-presidency of the company, taking the place of W. J. Foss, who has resigned.

The Massachusetts highway commission, with an international reputation as a leader in matters pertaining to the construction of roads and their maintenance, was formed in 1892.

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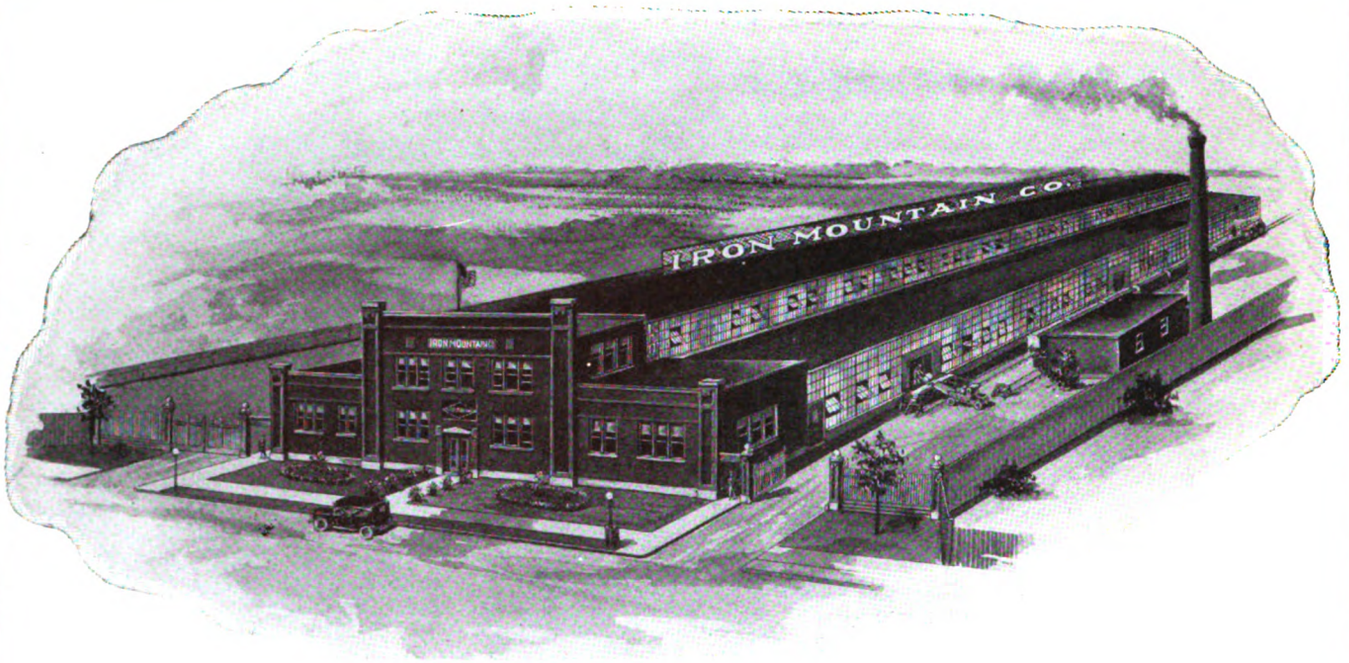

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On Hauling Coal

IF you indulge a propensity for satiric humor you will be mightily diverted by reflecting upon the solitary means it is proposed to employ in order to provide coal enough for industrial and domestic use, immediately and in the future.

The railroads are to attend to the matter. Naturally everyone feels bucked up over the fact that popular choice should have lit upon so reliable an agent. The shortage in supply now amounts to about 2,500,000 tons a week. Industry may come to a dead stop any day if its fuel reserves are exhausted, and these are so pitifully small at the present as to be almost negligible. The normal reserve of coal above ground and in storage was consumed last year.

But why worry when we can safely rely upon the railroads to exert their superior powers? They have always accomplished the impossible in periods of national danger. Consider the masterful manner in which they looked after transportation during the progress of the war. Everyone recalls with pride how marvelously elastic the service became, how freely cars moved in a supreme emergency, and how inconspicuous was the auxiliary work required of such mechanical toys as motor trucks. No impediment of any kind, no interruption to normal traffic, no congestion—business as usual, if anything a little bit smoother than usual. Doubtless we will witness a repetition of these same effectual work processes when coal begins to move. Overnight the Northwest will be supplied with the 19,000,000 tons it must have before ice puts a stop to lake navigation. The capacious bins at Duluth are bare now, but filling them will be a trifling task when the railroads are on the job. No big industrial city in the country has more than a few days' supply of fuel. Just watch the railroads stock 'em up.

The heavens may fall, the stars may fly from their fixed courses, the waters of the earth may even dry up, but such occurrences are to be expected in a world off center. Our railroads, however, have never yet failed us and, under sanction of heaven, they never will. Just consider their equipment. Only 300,000 cars short of requirements. —a trifling output for a few plants in good production. With these and about 2000 more locomotives needed for odds and ends of work, they stand prepared for the very highest achievement, the stiffest test of all time.

To insure faithful performance of this little job, and others of still milder nature incidental to transporting the freight of a nation, the railroads must have a 46 per cent increase in carrying charges. That seems fair enough, especially when you consider that it only amounts to $1,017,000,000 a year, plus $600,000,000 a year for wage increase, or $1,617,000,000 in all.

Might it not be suggested, however, that in case the railroads encounter unexpected difficulty in dealing with the situation some slight consideration be given to motor trucks and trailers. They are convenient little tools to have around when fixed rail service gets gummed up, as occasionally it will. These implements have been used quite casually in rounding out railroad service. It may be that they could "pinch hit" again, and to better advantage, if the opportunity were presented.

Hauling coal is the specialty of railroads. The whole nation will be stiff with anxiety until it is known how expert they really are in the work. God help us if they fail in the present undertaking.

Gasolene in Politics

DOWN in Texas the use of gasolene in transportation is a live issue before the electorate. One of the candidates for the office of governor, McGregor by name and leader of the American party, vows that if victorious at the polls in November he will prevent all and sundry "from sending Texas to hell in autos."

The McGregor, it will be inferred, has the Billy Sunday gift of speech. He aims to pack a wallop in every sentence. His style is that of the oratorical pile driver. Here is another little specimen of his art:

"Gasolene, since it has been applied to transportation, is the greatest agency for evil the world has ever seen, not excluding liquor."

To this harsh condemnation of our favorite fuel the McGregor adds the superfluous declaration that he is unalterably opposed to its use by state officials of high or low degree.

Of course he is wrong in cherishing this hatred for one of nature's bounties. Gasolene is a comparatively harmless liquid until it is mixed with political hot air. When so compounded it is highly combustible. No, the curse of the world is not gasolene. It is pre-election poppycock. In a state which abounds in oil the gushful McGregor is a remarkable political quantity to tie to. His chances of election would seem to be extremely remote.

Credit and Motor Truck Sales

THE action of the Federal Reserve bank in forcing its subsidiaries to restrict loans has had the effect of temporarily retarding the free sale of motor trucks. In their haste to comply with instruction bankers at large have not stopped to consider that the motor truck is a utility of the highest order, or that its sale is heavily dependent upon the ready negotiation of collateral notes given by concerns of more than ordinary commercial substance. They have failed to distinguish between financial accommodation for warrantable and unwarrantable investment.

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A lengthy continuance of this ultra-conservative policy is hardly to be expected, as in such case all industry would be starved for want of money support from banks. Believing that it will soon be abandoned manufacturers, dealers and final buyers are accepting present conditions as a trial of their fortitude in a difficult hour when all are asked to employ rare circumspection in business affairs.

Perhaps if the manufacture and sale of motor trucks was not so closely identified with the production and distribution of passenger cars there would be a more generous treatment for the younger division of the industry. But the two go hand in hand to such an extent that it is with difficulty bankers can be brought to see they really walk separate paths. As time passes the courses of each will be more clearly charted. The great usefulness of the motor truck is ever commanding more and more financial support. At no distant date it will be first among public utilities in the esteem of the bankers. The proportions of its manufacture alone prevent it from occupying that proud place today.

The Cure for Sick Railroads

AS everyone is painfully aware, industry is much embarrassed and the national welfare is gravely menaced as a result of a shortage and impairment of the tools of rail freighting. The conditions under which raw materials and finished products are being distributed are so alarming as to make millions wonder if the remedy really lies in their improvement.

Admit that the railroads are sick—dangerously sick. Still it is not at all certain that the disease from which they are suffering will respond readily to treatment. Poultices which cost $600,000,000 apiece, and are to be applied annually, will not be very efficacious if it develops that the disorder is malignant. Many believe that the symptoms do not in the least indicate the necessity for resorting to the gold cure, or any other form of empiric practice. Indeed, there is open advocacy of the knife as the only instrument which will permanently relieve the tortured victims. The surgical removal of some part of the railway system might conceivably be of great and lasting benefit.

We are born with tonsils and a vermiform appendix. While they are with us they are sources of pain and peril. We improve in health by having them removed. Doubtless the physical condition of the railroads would be greatly improved if their short haul traffic was cut away. Such work is not a true function of the railway system. In maintaining it the system has become overburdened. Its vitality is sapped because it persists in attempting to perform a service for which it was never designed. Long haul duty is the proper function of the railroad. Short hauls are the work of motor trucks.

It is not generally realized that far too much public confidence is reposed in the normal ability of the railways quickly to transport the volume of freight which is brought to their tracks and depots. The majority of us are inclined to overlook the fact that the speed of rail freight, in the happiest of times, was inexcusably slow—that from ten days to three weeks were consumed in carrying merchandise of a non-perishable kind from Chicago to New York. Nowadays, of course, shippers have no such expectations. They send their wares to the railroad freight house, take receipts for delivery at destination, breathe a prayer, spit over crossed fingers, and retire to die of old age while the goods are in transit. If delivery is made in their lifetime, well and good. If not, the matter is something for their children or their grandchildren to worry about. Of course, if a shipper must have reasonably quick delivery of a carload of merchandise, he has only to select two or three men from his organization, stuff their pockets with money and instruct them to distribute it along the route among switchmen and others who can be bribed to be of service. Under these circumstances it will cost from $500 to $1,000 to hustle a car for a distance of 500 miles. The cost will vary with the value of the merchandise and the urgency of delivery at destination. This is a common feature of modern rail transportation.

It is becoming rather too obvious that the internal commerce of the country is in a bad way as a result of coddling the belief that the railroads alone can be depended upon to serve every principal need of transportation. When we look beneath the surface of conditions as they are we find that the railroads alone achieve comparatively little. They owe the great bulk of their traffic to the development and use of the highways. Roads, and not rails, form the foundation of rail traffic. They are an inseparable and indispensable part of the transportation system. All commerce has its roots in roads. So long as this fact is obscured, and highways adequate for the nation's needs are lacking, rail transportation may be ever so efficient, but it will still prove to be the unreliable agency it is demonstrated today.

In the present emergency the public is apt to be misled by many current sophistries. It is peculiarly susceptible to the theory that if rail freight rates are advanced, abundant rolling stock provided and wages of operatives increased, all will be well in the world of transportation. This has been the cry ever since the first rail locomotive was put in commission. But has there ever been a period when rail service kept pace with the needs of commerce-If there has it is not of record. Rail service has always been what it is at this moment—inadequate and slow. Investment for improvement has always lagged, and periodically has been totally wanting.

The fundamental difficulty apparently lies in the unwillingness of the railroads to accept salvation upon any terms other then they themselves may nominate. They want no partners in undertaking to perform a public service which it is demonstrated they cannot perform alone. They fear to completely surrender what is already being torn piecemeal from them. There would be no scarcity of freight cars, no delay in moving raw materials or merchandise, if there was a well balanced allotment of transportation duty to rail and road operating units—if, in short, the railroads were not given the opportunity to hog it in the field of transportation.

But the railroads still want to rule transportation in the kingly manner to which they grew accustomed in the days when the supplementary service of motor trucks was not available. They have never encouraged the development of an alternative form of land transportation, and only grudgingly admit the possibility of its value. They have always striven for monopoly of traffic. Now, with crippled service to repair and close governmental supervision to endure, they still cling to the thought that their utilities and their remedies are enough to save a nation from ruin.

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THE Power Wagon Reference Book for 1920 contains most elaborate specifications of motor trucks, trailers and farm tractors ever published, presented in 92 pages. Specifications are kept accurately up-to-date in each issue of Power Wagon. Blue print plan and elevation views of the principal models of trucks, trailers and tractors are shown in 134 pages, printed in color. The 500 pages of text matter afford a vast volume and great range of information to all who are interested in the production, sale and application of trucks, trailers and tractors. For the technical man there is technical data. For the reader not so keen for technical information there is a great mass of enlightening text matter, which will enable him to trace the economy of trucks, tractors and trailers. A particularly valuable feature of the book is the section which presents 42 detailed studies of the application of motor trucks in as many industrial services. The tables supplied in connection with these 42 studies of motor truck application present the most valuable, painstaking and accurate analyses of market ever presented to the trade.

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Francis W. Davis, Engineer,
Pierce Arrow Motor Car Co.

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Claudel Carburetors, Detroit.

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MORE THAN THEY EXPECTED—This Reference Book apparently contains a great deal more information than we had hoped for, and we take this opportunity to congratulate your company on compiling so much very essential truck data.

Maxwell Motor Sales Corp.

THEY RECOMMEND IT—This is the most attractive book of its kind that has ever come to our attention. You have our permission to state that we recommend it to our dealers.

Winther Motor Truck Co.

AUTHENTIC BASIS OF COMPARISON—This book contains very valuable data bearing upon the scope and purpose of the motor truck industry. It affords an authentic basis in comparing the various makes of motor trucks on the market.

Standard Motor Truck Co.

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Parmalee Company

(Continued from page 17)

motorization of its equipment using both gas and electric machines in its work.

At the present time the Parmelee company has a number of electrics in use and as they prove themselves efficient others will be added until horses no longer will be seen drawing the vehicles of one of the largest transfer companies in the world.

The electric units placed in regular service are being driven by the company's old horse drivers, and are giving excellent service. These chassis are equipped with the Walker balance drive having one electric motor housed within the torpedo shaped hollow rear axle; with the differential direct connected to the hollow armature shaft and two drive shafts extending from the differential into the center of each hollow rear wheel, with a spur pinion on the wheel end of each shaft. Each pinion floats between two spur idler balanced gears that drive the internal tooth spur rim gear secured to the inside of the permanent wheel band.

The efficiency of the Walker balance drive from motor to tires is stated to be approximately 97½ per centum under loads from normal to 400 per centum overload.

The controller, meter and switch are located in the seat box. The battery box is located under the frame back of the seat. The tires are solid cushion standard S. A. E. pressed-on type. The chassis design, workmanship and material are strictly high grade throughout.

Chicago Plans to Revise Traffic Ordinance Reducing Gross Weight

Amendments to the traffic ordinance in Chicago have been drafted to be submitted to the city council with a view to preventing rapid destruction of the street pavements by excessively heavy traffic. The proposed changes were discussed at a recent meeting in the office of the city engineer, Mr. Coombs, who is chairman of the special traffic commission charged with drafting the amendments. It is proposed to change the gross weight of vehicle and load from 40,000 pounds, as at present allowed, to 30,000 pounds, with a maximum weight of 1,000 pounds per inch width of tire, but it was agreed at the meeting that the combination of a motor truck and semi-trailer with load, should be allowed a weight of 32,000 pounds, with a limit of 24,000 pounds on any one axle.

During the meeting the city engineer said he was very much in favor of the use of trailers and felt it was preferable to have loads spread over the six or eight wheels of motor truck and trailer or semi-trailer rather than to have the weight concentrated on the four wheels of the machine carrying the load alone.

Forms New 'Bus Line

Permission has been granted by the Illinois State Board of Public Utilities for the operation of a motor 'bus and truck line between Peoria, Illinois, and Bartonville, a suburban town which is the site of the state hospital for the insane and where a number of important manufacturing institutions are located.

Annoyance of Car Strike Overcome by Motor Buses

AKRON FIRMS HAUL 65,000 WORKERS DAILY

Twenty-two rubber companies in Akron confronted with the problem of transporting 65,000 employees to and from work during the recent street car strike operated several hundred motor trucks on schedules that enabled them to move the large force of people without loss of time.

Motor trucks and buses owned by the Goodyear Tire & Rubber Company hauled approximately 4,000 people during each of the shifts at 7 a. m., 3:30 p. m. and 12 o'clock midnight. In addition, they handled the crowds from the general office and factory office at 4:30 p. m.

M. D. Scott, a transportation engineer, divided the city into zones and routed the vehicles over the principal streets with dispatchers stationed at congested points to load the crowds and keep the motor trucks moving. Each vehicle bore a sign indicating the route it traveled. They were parked near the factories by curb stone standards which also told the route it followed. The service maintained won the praise of all car riders as it was not restricted to factory employees. It was estimated that Goodyear alone hauled 20,000 people a day in its vehicles during the strike.

One of the innovations of the strike was the mustering into service of a six-wheel motor vehicle. Equipped with a special street car body it is probably the largest motor 'bus in America. With pay-as-you enter arrangement, upholstered seats and complete equipment, it seats 44 passengers. Including standing room, it will accommodate comfortably approximately 90. The tandem rear axle arrangement made possible greater traction and easier riding, and enabled the huge 'bus to carry enormous loads during the strike.

Trucks May Have to Tote

(Continued from page 17)

a feeling in the industry that if the "excess profits" tax were eliminated, as is ardently desired by so many interests, it would have an effect upon the sale prices of motor trucks, probably in 1921 and certainly in 1922.

However conscientious one may be in the desire to forecast to the trade the future of taxation it may as well be admitted that it is any man's guess what the final session of the 66th Congress will do. Obviously, much will depend upon the outcome of the November elections. At this writing there is, on the part of a large proportion of the national lawmakers, a feeling that some more scientific and less irksome system of federal taxation should be devised. But opinion is by no means in accord as to what form of levy would approach nearest to the ideal of a "painless" tax.

Whether or not it be welcome news to motor truck interests it is unwise to ignore the fact that here is a steady trend of sentiment in congress in favor of "sales taxes" as substitutes for the present imposts which seem to so chafe the shoulders of the burden bearers. When the soldier bonus plan was under consideration in the closing days of the last session such a storm of opposition was aroused to the retail sales tax which the Ways and Means Committee of the House of Representatives had devised as a means of financing the soldier aid program that it had to be abandoned. But evidently that defeat was not taken as a popular rejection of the whole idea of a tax upon sales as a means of raising revenue. At any rate the advocates of a sales tax are unconvinced.

The argument that will be stressed when congress takes up the revision of the taxation system, whether that be in 1920 or 1921 or 1922 is that the public pays with the least protest and with the least discomfort the taxes that are nearly invisible as possible. The tax now paid on freight bills has been instanced as an example of the type of tax that is non-irritating because unobtrusive. Following this line of reasoning a numerous clan of tax reformers would undertake the raising of the bulk of the public revenue by means of what might be termed sugar-coated "consumption taxes." This latest proposal for a sales tax as the mainstay of our revenue system contemplates however one radical departure from the general sales tax lately endorsed by the Ways and Means Committee and from the so-called "luxury" taxes now in force. It is proposed that not only shall the sales tax or consumption tax be paid by the seller, but that it shall be included in the price charged so that the buyer will not realize that he is paying a tax.

Advocates of the sales tax or consumption tax as the panacea for the woes of business America admit that the motor truck trade would be particularly hard hit by such a cumulative sales tax and they are, in consequence, prepared for more or less determined opposition from the industry. This is due to the fact that, with each part or commodity entering into the manufacture of a motor truck acquiring a tax appendage at every step, and with the product adding to its tax hump at every turnover, it might happen that the increase in the price of the complete motor truck to the ultimate purchaser might be as much as 14 or 16 per centum. Rather than face any such tax burden, a burden that would be discriminatory as compared with the tax item on simple articles passing in direct sales channels, it is apprehended that many motor truck men will prefer the present tax program, unsatisfactory though it be.

Trailer Men Hold Get-Together Meeting

Chicago representatives of trailer manufacturers held a get-together meeting and luncheon recently to consider proposed changes in the local traffic ordinance. So much friendliness and goodwill were evident that it was decided to hold similar meetings probably once a month in future to discuss matters of mutual interest. During this first meeting it was reported that the Secretary of State for Illinois had informed one of the representatives present that the city of Evanston had notified the secretary that it was no longer enforcing the old ordinance in Evanston prohibiting the use of trailers. Efforts will be made to secure the repeal of this dead-letter ordinance.

The State senate of Kansas recently passed a bill to make the penalty for theft of an automobile imprisonment for from 5 to 15 years. The house already had passed the bill.

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Sales and Service Co-operation

By R. B. PERRY
Service Manager, Allen Motor Company

IT would be quite possible to condense this article into a single word which would be a comprehensive statement of the ideal relations between "Sales" and "Service"—the word "Co-operation." Nor would such a statement be likely to invite criticism. There are some watchwords which, popular for a time, eventually fall into disrepute through misapplication or misuse. It would probably not be difficult to start an argument over such terms as "System" and "Efficiency." Both are elements essential to the proper conduct of any business, but we have come to understand that both may be overworked. "Too much System" has spelled defeat to many an enterprise and "Efficiency" is a good servant but a poor master.

Co-operation can not, however, be placed in this category. It is expressive of the principle which actuated our primitive forbears to band together against common foes; it is the underlying principle of government; it supplies the motive for the formation of these United States of America; it was the formula which merged the somewhat conflicting interests of our allies in the World War into a single driving force which led to victory; it is the solution to the vexing problem of the relations between capital and labor. It is nevertheless a principle which has been to some extent overlooked in our industrial relations. This is the day of specialization. In every field of endeavor we have become specialists. Nor is this tendency to be discouraged. As the fund of world knowledge grows, each one of us must of necessity select some comparatively narrow field in which to specialize. Yet it is highly important that each one of us keep his perspective and recognize that his own endeavor is important, not so much in itself, as in its relation to the endeavor of his fellows—in other words the higher the degree of specialization the greater the need for co-operation in its fullest sense.

STARTING from this text—let me pass to a consideration of my subject—dividing it—for it is really a double subject—and taking up first the question of "What the Service Department Expects of the Salesman."

First—The service department expects that the salesman, whether he be connected with the factory organization or a retail man dealing with our friend Mr. Ultimate Consumer, to inform himself fully of the functions and policy of the service department. There are perhaps no more serious problems in "service" than those resulting from promises or inferred promises made by salesmen who are not sufficiently informed or who are carried away by misdirected zeal. The prospective dealer or owner accepts statements made by salesmen as official and his faith in the organization with which he is dealing if not in the product itself is badly shaken if he later discovers that he has been misled. Certainly sound business is founded on sincerity and misleading statements cannot be construed as other than insincere. The service department expects the salesman, therefore, to sell only such service as is offered by the company he represents.

Second—The service department expects that the salesman will as a rule follow the policy of "Hands Off" in matters pertaining to service. The traveling service representative or service manager who would in his relations with the trade undertake adjustments in territory or revise schedules for delivery would certainly be unpopular not only with the sales department but with the management. Yet has a salesman on the other hand any more right to arrange adjustments on defective parts or to agree to send a service territory man on a specified date for an unlimited stay in some dealer's territory? Surely the service man may suggest or recommend revisions of territory or shipping schedules if he has information which permits him to make such suggestions or recommendations intelligently and surely the salesman may make similar recommendations with respect to service functions, but in both cases action on the part of sales or service men should be strictly limited to recommendations and should never be complicated by promises made the dealer or owner.

THIRD—The service department expects the salesman's hearty support. It should be taken for granted by the salesman that the service department is operating in a manner satisfactory to and in accordance with a policy approved by the management. In his travels through the territory the salesman will inevitably meet dealers and owners who will complain of service. Without question the service department from the nature of its functions is constantly subject to criticism. If a repair part does not arrive promptly or the wrong part is received, the service department is usually blamed. Yet the service department has no control over the vagaries of the mails and telegraph; it can not regulate express and freight movements nor can it be held responsible if an order calls for a propeller shaft when an axle shaft is really wanted. Nevertheless, the dealer or owner will complain and if the salesman at this more or less critical point takes the stand that he is right, serious harm may be done. Let him learn in detail the nature of the complaint and refer it to the service department for investigation, assuring the dealer or customer that all errors for which his company may be responsible will be rectified.

Fourth—The service department expects the salesman to report conditions in the territory which call for attention on the part of the service department. It is recognized that well intentioned effort on the part of this department may at times result in complications in certain territories which in turn develop sales resistance. The quickest way to clear up such situations is to report fully with respect to each case from the salesman's angle. Not only should the service department profit from each case of this kind with which it has to deal and be in a position to avoid repetitions, but the salesman will shun the risk of losing prestige which is likely to result from efforts to make adjustments on his own initiative.

FIFTH—The service department expects that the factory salesmen will, in recommending dealer contracts take into full consideration the importance of the dealer's service facilities. It sometimes seems that the salesmen's estimate of a prospective dealer's desirability from a factory standpoint is based upon the dealer's location on automobile row, his financial responsibility and the size and quality of his sales force. Those of us who have, however, struggled with problems of service would be more likely to push through the imposing show room, brush aside the courteous and attentive salesman—even shut our ears to glowing recommendations of the bankers—and see for ourselves whether or not the dealer we were considering had a well lighted, well manned and cleanly service station—provided with necessary equipment and backed up by a well stocked parts room. We would be interested to learn whether or not the same courtesy were extended the owner by the service department that had been accorded him by the salesman and whether the owner recommended the dealer in the same hearty terms as did the banker. If we found conditions favorable here we could overlook certain shortcomings in the matter of location, sales force or even finances—because we would feel that these shortcomings would be speedily overcome as a result of the sales impetus which would be sure to be derived from thoroughly satisfactory service. So the service department expects the salesman to inquire into the vastly important detail—and other things being at all equal recommend as a desirable dealer the man who is well grounded on the foundation of good service.

Sixth—The service department expects the salesman—unless he be thoroughly qualified—to refrain, in general, from technical discussions. He should without question be informed as to troubles—particularly those of a chronic nature—occurring in the product he is selling. He should be informed also as to remedies which are being applied. He should be advised of any critical conditions which may be preventing prompt shipment of parts. But this information should be employed by the salesman only to

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the extent of meeting the trade intelligently. He will earn the gratitude of the service department if he does not embarrass it by attempts to diagnose specific cases of trouble—but instead relies upon the service department to investigate and correct.

Now then what is the other side of our co-operative plan. What does the service department owe to the salesman?

First—Without doubt the service department, if demanding that the salesman be familiar with its functions and policy owes it to him to supply necessary information. Through the medium of factory conferences, bulletins and letters the salesman should be kept fully advised of these subjects. Ample evidence of the need for close co-operation in this respect was developed at the time the policy of warranting machines for a year was generally abandoned in favor of the present standard ninety day warranty. In spite of the considerable publicity attending this change, many salesmen continued selling on the old basis and even to-day it is no uncommon occurrence to have in our mails a letter from an owner confidently basing a claim for adjustment on the assurance given him by the salesman that his machine is fully warranted for a year. We have in such cases evidently failed to keep our salesman well posted.

SECOND—If the service department expects the salesman to refrain from attempts to adjust disputed claims or other complications of a purely service nature, then it owes the salesman in return its best efforts to settle all disputes promptly. Unless this be done the salesman will be badly handicapped by the dealers' or owners' attitude that he is not interested in future business until he can have pending claims adjusted. Nothing is better calculated to discourage the dealer than inattention to discourage the dealer than inattention to such details. His inquiries must have prompt answers; his complaints and suggestions must be given immediate consideration; his credits must be issued without delay, if the service department hopes to retain his good will and pave the way for the salesman's efforts.

Third—If the service department expects the salesman's support then in return it must support the salesman. Any condition which is reported by the salesman as affecting sales effort, merits prompt investigation and appropriate action. Even though the fault may not lie with the service department, the report should not be disregarded. The dealer's or owner's erroneous conclusion in such a case should be met with a courteous statement of the facts and the salesman should receive a copy of the statement for his information. He is entitled to the knowledge that his report has been received and disposed of and if as will doubtless be true in the majority of cases, the fault does not lie with the service department, the salesman's faith in his own organization will be strengthened and he will be better able to handle subsequent complaints.

Fourth—The service department owes it to the salesman to be so organized that it is in a position to send a representative on short notice to any point where he may be needed. Very naturally the dealer is prone to take up with the salesman any problem which may be vexing him. From the nature of his duties, the salesman is likely to be the member of the factory organization with whom the dealer feels best acquainted and whom he sees oftenest. Doubtless we have in the past left the salesman too much on his own resources. We have made it necessary for him to attempt the diagnosis of specific cases of trouble—to answer inquiries of a technical nature—to discuss disputed claims—because we have not backed him up with well organized service. We should have our service representatives call on the dealer as frequently as do the salesmen. We should put into practice our theory that our obligation does not cease when we have sold machines either wholesale or retail and should educate the dealer to the end that he will not take up with the salesman matters of a service nature because he will know that he will shortly have opportunity to discuss these questions with a service representative.

The salesman will vastly prefer such an arrangement. His own efforts will be more fruitful if he is not called upon to go into questions with which he is not directly concerned and about which he cannot hope to be more than casually informed. The dealer will be better satisfied to discuss technicalities with one qualified to give definite information and to take positive action. The service department will be more nearly fulfilling its mission of keeping in touch with each new development and many a trivial misunderstanding will be adjusted before it has reached the stage of a heated controversy. The factory service organization in its relation to the dealers—and the dealers' service organization in its relation to car owners—should by all means provide for close personal contact. From the manufacturer's standpoint this is good business. Any increase in the cost of service will result in a corresponding decrease in the cost of selling and will prove a most profitable investment.

FIFTH—We have said that the service department expects that the salesman will pay due regard to the importance of service in connection with the placing of dealer contracts. Yet it should not be overlooked that the salesman will rarely be able to select ideal representation. The service department therefore owes it to the salesman to back him up with thorough and intelligent educational effort. Even though the dealer may not be fully alert to the importance of service, he is usually open to suggestion. Practical assistance can be given him in a variety of ways such assistance in the main being directed toward making him able to help himself. The local situation should be analyzed—he should be advised as to his repair stock requirements. Suggestions and aids may be given in the matter of stock and repair records—shop equipment and arrangement—and in variety of other ways. Such a program will help the dealer to make his business successful and will tend to render the salesman's work effective and permanent.

Various phases of this interesting problem of the ideal relations between sales and service might with profit be discussed at greater length. Each one of them would, however, lead us back to our original text. Each one would further emphasize the truth that while closely related, sales and service are distinct and special fields of effort, each dependent upon the other is no small measure or success.

The sales department may perhaps be compared with the attacking forces of an aggressive army. A strategic position is selected as an objective and a carefully planned and brilliantly executed attack is inaugurated. No heavy artillery is desirable or necessary, for the success of the attack depends upon rapid and unhampered movement. So swift and sure is the movement that it is successful and the attacking forces occupy their objective. Here, however, assistance is needed if the position is to be retained and fully utilized. The slower moving but more heavily armed occupying forces arrive and take up the burden of holding what has been so brilliantly secured.

So the sales department plans its program and carries it to the point of successfully intrenching itself behind a dealer organization. Thereupon the service department must get into action and by thorough and sustained efforts assist in developing the advantage which has been gained.

This dual effort in the automotive business, as with an army, can only be entirely successful if it is planned and executed by an organization which has been thoroughly sold on the necessity for whole-souled and thorough-going co-operation.

Transport Truck Employees Are Protected Under Free Insurance Plan

Employees of the Transport Truck Co at Mount Pleasant, Mich., are given free life and accident insurance under a new plan recently instituted by officials of the company. The purpose of the scheme is to provide the workers with protection they might not otherwise be able to afford, to show the company's appreciation of their efforts and to promote a spirit of loyalty and co-operation that will establish a closer relationship between the concern and its employees.

Each man in the employe of the company for three months is presented with a $250 life insurance policy, paid for by the company. After six months of service this is increased to $500. After nine months the policy is increased to $750, after a year to $1,200, after two years to $1,250. After the worker's third year of service he has the permanent benefit of a $1,500 policy.

Beside the compensation insurance, which covers the employee only while he is at work in the plant, each is given a sick and acident benefit insurance covering any illness or accident that may befall him, up to 60 per centum of his salary, effective after the second day of disability.

Emerson With Jackson Motors

In announcing its plans and policies for the season of 1920-21 the Jackson Motors, Incorporated, has just made public the fact that P. L. Emerson, for three years general sales manager of the Olds Motor Works, Lansing, Michigan, has acquired a financial interest and become head of the sales organization.

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How Can We Save the Roads?

By R. E. FULTON

Vice-President, International Motor Company

HIGHWAY transportation as a public and commercial necessity has long ago received its certificate of economic justification. It has entered into the nation's scheme of things with the same wholeheartedness that characterized the railroads in their periods of development. It has found its place and is exercising a powerful influence toward shortening the gap between producer and consumer. It has reached the point, in fact, where its extension must necessarily be restriced for the good of its own future and the future of the nation's transporation as a whole.

Legislators, highway engineers, and those intimately concerned with motor vehicle expansion realize that unless some measures restricting the use of motor trucks are enacted, this country's progress toward its ultimate state of highway perfection will be long drawn-out and tedious. Even after we have constructed a system of hard-surfaced national highways it will be necessary to provide revenues for their upkeep and maintenance. To this end, it is but equitable that those vehicles which cause the greatest amount of damage to the roads should be restricted in their use at the present time, and that in the future they should contribute the largest share toward road repair costs.

At this time, when legislation to accompish this must necessarily assume definite form, to influence motor transportation for all time to come, it is vitally important that we make a far-reaching unbiased analysis to determine just where the basis of this restriction belongs. Not only must we save the roads, but we must do so if possible without sacrificing the increasing economies and conveniences that unquestionably would go with an expansion of motor transportation facilities.

THERE is a special field of transportation in which the motor truck is the only logical means of conveyance. How large a field it is, is shown by the fact that 300,000,000 tons of material were shipped by motor truck in 1919. Suppose this freight were transported in 1-ton power wagons. It would mean that 900,000,000 tons of traffic (including weight of vehicles and cargo) would pass over the roads of this country. If transported in 7½-ton machines the roads would have to bear only 600,000,000 tons of traffic. This is because the average 1-ton motor truck carries two tons of vehicle weight for every ton of freight transported while in a 7½-ton motor truck this ratio is reduced to less than one ton of vehicle weight for each ton of freight capacity. Regardless of what form restrictive legislation may take the total amount of material shipped in motor trucks in 1920 will obviously be greater than the total for 1919. This country is suffering from various kinds of shortages but they are almost all directly the result of inadequate transportation. Since no other transportation agency can now take the place of the motor truck in its own recognized sphere, it is obvious that every heavy duty machine barred from the roads will be replaced by several smaller motor trucks. The result will be increased road wear and increased cost of transportation. As practically all products of the farm and factory make some part of their journey from producer to consumer in motor trucks, it is necessary to make sure there is no other alternative before framing legislation which will increase motor transportation costs.

THERE are many fields of short distance light delivery, in which the lighter motor truck is better adapted. However, when bulk hauling is considered, the light machine's greatest asset in comparison with its big brother is its speed. For a 2-ton motor truck to transport material as economically as a heavy duty model it would be necessary for it to travel at three times the speed of the larger machines. Of course the light motor truck can not do this but it does travel at a considerably higher normal speed. Its increased speed, however, produces road wear in excess of that caused by the heavy motor truck in spite of the fact that the latter is accomplishing far more. It has been definitely proved that increased speed causes more rapid road wear than increased weight. It is not necessary that the heavy duty motor truck resort to destructive road speeds in order to furnish economical transportation.

Tire width bears an equally important relation to comparative road wear. A steam roller for example is about the heaviest vehicle which passes over a highway, yet because of its broad road bearing surface its effect on the roadway is beneficial rather than harmful. Likewise weight in a motor truck is destructive only when not accompanied by a sufficient width of tire. The fact is well-established that a load of 800 pounds per inch of tire surface is not damaging to an ordinary roadway and the heavy duty motor truck is always built to conform to this requirement. A 7½-ton motor truck has one inch of tire width for each 666 pounds of weight.

Highway engineers have lng been concerned with the problem of determining a fair plan for motor truck legislation. The United States Bureau of Public Roads, at Washington, has conducted exhaustive tests to determine the real causes of road wear. The conclusions should certainly receive careful consideration from those interested in the preservation of this country's roads. The report of this test which appeared in the official "Public Roads" bulletin says that road impact is the real cause of road wear. Realizing this, the experiments were devoted to ascertaining the causes of road impact. Through these tests, it was decisively shown that unsprung weight is the controlling factor in road impact. Unsprung weight, by definition, is that part of a motor truck's total bulk which hits the road a direct solid blow undiminished by springs. Unsprung weight does not necessarily increase in direct proportion to the size of a motor truck—it is controlled largely by the type of drive used. In a shaft driven motor truck the entire weight of the final drive and its housing rides directly on the rear axle below the springs. In a chain driven machine all of the driving mechanism is carried on the frame above the springs. The tests at Washington showed that a 5½-ton chain driven motor truck produced only 68 per centum of the road impact delivered by a 3-ton shaft-driven machine although the larger motor truck naturally carried a heavier load.

If restrictive motor truck legislation is necessary and it undoubtedly is, why not proceed on a basis which penalizes actual road wear rather than one which penalizes utility and determine by actual test and far reaching analysis just where the blame for excessive road wear belongs? Then and only then will the judgment be a permanent benefit to the growth of highway transportation and its relation to public welfare.

Illinois Truck Owners Up In Arms to Fight Imposition of Wheel Tax

Owners of motor trucks in Illinois are compelled to grapple with a new problem, that of excessive wheel tax, proposed by some of the cities of that state. Aurora aldermen have been considering a new ordinance which provides for a tax of $10 upon all motor trucks of less than 2-tons; $12 for those between 2- and 3-tons; $50 for those between 3- and 5-tons; and $75 for all over 5-tons.

The argument advanced was that the machines are damaging the pavements and dirt roads and that the tax money is necessary in keeping up repairs. Owners of motor trucks in Aurora are insisting that if the ordinance is to be adopted that it include machines from outside points that operate in that city. Many come from Chicago, bringing in loads and taking back loads. It is maintained that all should bear a proportionate share in the expense of road work. It is expected that some action will be taken in relation to foreign motor trucks and a committee of the council is now working upon a report which will be considered at a session in August.

State Dealers' Association Grows

The Logan County, Illinois, Auto Dealers' Association has voted to join the new Illinois Automotive Trade Association. Many local associations in the state have followed the example of the Logan County body and it is expected that several thousand members will be enrolled before the close of the year.

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All Ready?

International Harvester Company to Build New Truck Factory

The International Motor Truck, which has increased its sales volume fifteen hundred per centum since 1914, is to be put as soon as possible into greatly extended production. Harvester company officials have secured a site for the erection of the largest motor truck plant in the world to provide their motor truck with manufacturing facilities more in keeping with American and World demand.

Cyrus McCormick, Jr., works manager, who will have charge of the construction, equipment, and operation of this new development, says:

"The site of the new plant, which will be in addition to Akron works, is situated at Fort Wayne, Indiana. The facilities for International motor truck manufacture and distribution were investigated of twenty-eight industrial centers in the United States before the Fort Wayne site was selected, in order to find the very best base for International extension. In a word, Fort Wayne was selected for its strategic situation with respect to the delivery of raw materials from the company's mining and lumber and steel producing properties and from available sources of purchase and with respect to the quick and facile distribution of the finished product."

It is a noteworthy fact that the site purchased for this great new plant comprises 140 acres of land and that this represents the greatest acreage for manufacturing purposes of any of the International Harvester plants on the American continent, of which this will be the 24th, or of the European plants of the company, which are seven in number. This fact shows the seriousness with which the company is entering upon its motor truck enlargement plan and the elaborate scale upon which it is building for the future.

Industry Too Fast for Farm

H. S. Firestone says that industry has hit too fast a pace and must slow down to let agriculture catch up with it if the country is to regain balance. "Industry everywhere," he declared, "is faced with a grave crisis, new problems regarding raw material, transportation and other of its elements presenting themselves daily.

"We have taken too many boys off the farms, thus reducing the number of food producers. And we have brought them into the city to work without providing sufficient housing facilities. We seem to have lost our balance, and there will be no peace for us until we get the right proportions of industry, agriculture and religion into our daily lives."

Oshkosh Promotes Harry Greene

Harry G. Green, who has been vice-president and general manager of the Lewis & Greene Motor Company, state distributors for the Oshkosh Motor Truck Manufacturing Company, has severed this connection, having been appointed district sales manager for the factory with headquarters at its Minneapolis branch, in charge of the Northwest territory. Mr. Greene's place is to be taken by Scott Seddon, of St. Louis.

Southern Graders Show Fine Operating Records

LEVEE BUILDERS HAVE FLEET OF EIGHT

The records of the Tennalark Transportation Company, of Nashville, Tennessee, offer convincing arguments in favor of the 3½-ton capacity motor truck for road construction. R. B. Stewart, chief engineer, in charge of the company's motor truck fleet, speaking of the company's operations, says:

"We feel that these 3½-ton machines are giving us a very high performance at an operating cost which is low for the sort of work in which we use them. Their heavy frame construction and flexible drive enables them to perform consistently under conditions which are severe, and which we know to be most exacting on motor trucks. We have had considerable experience in road work and other construction work using heavy duty machines and our experience shows us that in the Diamond T motor truck, equipped with steel body and hoist, we have a transportation unit which can not be excelled for moving excavated material surely and cheaply."

This company has a contract for excavating and filling work on a new road grade through very difficult bottom land along a levee between Memphis and Millington, Tennesee and the following facts and figures will be found of particular interest to highway engineers and contractors:

The motor trucks are equipped with steel dump bodies and hydraulic hoists. Their average haul of gravel and dirt is from the steam shovel to the fills or dump located about three-quarters of a mile away. Their average load is 3½ yards of excavated material weighing approximately 2500 pounds to the yard or a total load of 8700 pounds. Each motor truck travels 40 miles per day and makes over 26½ trips. The average load is at least 3½ yards, therefore each machine carries over 93 yards per day, or a total of 744 yards of material for the 8 motor trucks per day.

Operating costs per machine obtained from the Tennalark Transportation Company are as follows: Fixed operating charges $7.85 per day and variable operating charges $12.80 per day, making a total operating cost per day of $20.65 or $0.516 per mile. These figures include a daily depreciation charge of 15 cents, which is un-

Fleet of the Tennalark Company loading dirt and gravel.

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usually high as this company figures only 35,000 miles as the life of each motor truck. On this basis a machine would be useful only 875 working days (at 40 miles per day), while in reality they will give excellent service for 5 years or more, even under these severe conditions. Accompanying is an operations report for the first quarter, 1920, for hauling on this road contract, compiled by Granberry Jackson, treasurer of the company:

30 Gallons Gasolene Pulls Truck for Record Trip of 278 Miles

What is believed to be a new record for motor truck transportation was recently established by a Jaxon full floating wheel equipped size C. Packard when it made a trip from Jackson, Michigan, to Chicago, a distance of 278 miles in 12 hours and 55 minutes running time. The elapsed time was 15 hours and 30 minutes, the 2 hours and 35 minutes being taken up in stops for meals by Driver L. F. Hamm, the demonstrator of the Jaxon Steel Products Company in this territory.

The fact that the machine was loaded with 4,700 pounds and that the entire trip was made with 30 gallons of gasoline at an average speed of 22 miles an hour makes the performance all the more noteworthy. The average gasoline consumption was 9 miles per gallon. The governors were removed so that over the good roads between Jackson and Kalamazoo the average speed was twenty-seven miles an hour. The high gasoline mileage and the fact that not even a minor adjustment or repair was necessary when the truck completed the trip is a very good demonstration of the economy the wheels promote.

Proves Trucks Essential to Ice Business

Large Manufacturer by Use of Sixteen Machines Increases Sales and Discards Forty Horses—Would Not Return to Old Methods of Delivery

NEW policies of the railroads, which discourage short hauls and light loading of cars, is a distinct advantage to motor truck manufacturers and those who operate them, according to Herman Fifer, president of the Bloomington, Illinois, Manufactured Ice Company. Converted to motor trucks six years ago, the first institution in that city to invest, the number has been steadily increased until to-day, sixteen machines are in constant service, taking care of the retail and wholesale trade in artificial ice. Two years ago, when the railroads issued a new ruling that twelve tons was the minimum shipment of ice that would be accepted, the Bloomington firm began to receive orders from rural towns, up to twenty-five miles distant, and it became necessary to increase the number and size of the equipment to take care of the suburban business newly created.

A charge of a dollar an hour was made for the time consumed in making a trip to the rural districts in addition to the regular price of the product handled. In addition to vastly increasing the business handled by motor truck, the company also has been supplying many rural firms which have recently invested in machines of their own and which they use to bring poultry and other farm products to the city, and then return with ice.

This has developed into an unexpected angle affecting the ice business.

Prior to the advent of the motor trucks and the restrictive order of the railroads, it was the custom of the concerns using a large quantity of ice, to cut their supply each winter from some adjacent pond and store it in their own house. Now, with the advent of the motor truck, such firms, in many instances, have abandoned such a method and purchase their ice as they need it. regulated by the condition of the weather, quantity of business, etc. The change has been found to be much more satisfactory, avoiding the work and annoyance of storing the product, and also promoting economy.

In addition, there has been objection to the use of ice from rural ponds and lakes, due to the presence of impurities and disease germs. This is avoided by the use of the distilled water product, frozen artificially. The Bloomington company is prepared for a very heavy business during the coming year from the suburban towns of Central Illinois, taking advantage of the changed conditions brought about by the railroads and rapid increase in the number of motor trucks. The ability of the rural consumer to time his movement to the city to replenish his supply, so as to avoid waste and secure the exact amount of ice his business requires, is an important consideration and redounds to the advantage of both patron and manufacturer.

The Bloomington company operates Fords and Autocars. Four are of 2-ton capacity and are operated by two men, taking care of the wholesale trade. Eight are 1½-ton capacity, and four handle 1200 pounds. The sixteen machines have displaced forty horses. All of the machines below 2-tons are operated by one man who drives them and also makes the delivery of the ice. The saving in expense of delivery as compared to horses, is 30 to 35 per centum. This applies only to the financial saving. The advantage in dissipation of worry, is 100 per centum. When horses were used, the delivery was unsatisfactory especially in torrid periods when the demands for ice became heavy and when the horses could not be speeded up. Now, the company can take care of almost any demand, and there is no limit apparently to what the motor trucks can do in taking care of the urban trade, running night and day without any appreciable impairment. The wholesale delivery trucks handle 20 to 25 tons a day. The retail, taking care of the family trade, average 6 tons a day.

Trouble anticipated from reckless or inexperienced drivers, has been negligible, according to the experience of President Fifer. He states that the motors in most of the machines now on the market are "fool proof" and that the principal point to be guarded, is plenty of lubrication. He

(Continued on page 50)

	January. 2 to 4	February. 4 to 6	March. 4 to 6	Totals. Avg. 5
Number trucks working				
Number truck hours	528	919	814	2,061
Loads earth hauled	632	2,302	1,597	4,531
Number days working	8	21	16	45
Number truck miles	1,218	3,576	2,608	7,402
Average costs:				
Per truck-mile	$0.562	$0.301	$0.483	$0.408
Per ton-mile	0.225	0.120	0.193	0.163
Operating expenses:				
Payrolls	$334.15	$528.70	$778.00	$1,640.85
Gasolene and oil	86.36	266.08	210.58	563.02
Manager's salary	250.00	250.00	250.00	750.00
Miscellaneous	14.60	30.37	21.03	66.00
Totals	$685.11	$1,075.15	$1,259.61	$3,019.87
Average gross profit, per truck, per day	25.26	24.75	22.56	22.27

Let Go!

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500—2,000 (Nash) **INTERNAL-COMBUSTION**

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	500 Pounds:																			
1	Pony	$320	Own	4	2¼x4-12.1			T	C, Own		Stromberg		Atwater-K			F, 3				1
	1,000 Pounds:																			
2	Belmont, A	1,150	G B & S-A	4	3¼x4½-22.5	S	Pierce	T	C. Modine	N	Zenith	G	B	Y	P. G B & S	S, 3	Grant-Lees, K	N	Sterling	2
4	Croce, 17	825	Wisconsin	4	3¼x5-16.9						Zenith		M. Bosch		M, Brown-L	S, 3	Brown-Lipe			4
5	Dodge	935	Own	4	3¼x4½-24.2	FS		P	T		Stewart		B, Northeast.		M	S, 3				5
6	Duryea, C	675			12.0	S	N				Kingston		M, Bosch							6
7	Seneca, M		Le Roi, C	4	3¼x4½-15.9	FS		T	C, Kuntz	N	Schebler	G	BM, Bosch	Y	P, Borg & B	S, 3	Warner, B	N	Universal	7
8	Vim, 29	1,355	Own	4	3⅛x4½-15.6	FS	N	T	T, McCord	N	Zenith	G	B	Y	P, Own	S, 3	Own	N	Spicer	8
	1,200 Pounds:																			
9	Champion	1,100	Light	4	3¼x4½-16.9	S	N	T	C, Jamestown	N	Carter	G	B	N	P, Borg & B	S, 3		N		9
	1,500 Pounds:																			
10	Atlas	1,260		4	3½x5-19.6	S		T	C	N		G	B	N	P, Borg & B	S, 3		N		10
11	Bethlehem, K		Own	4	3½x5-19.6	F	N	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Spicer	11
12	Conetsoga, 12	1,850	Continental, N	4	3½x5-19.6	FS		T	C, Fedders	N	Stromberg	G	M, Simms	Y	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	12
13	Dispatch, G	1,200	Wisconsin	4	3½x5-22.5	F		T			Rayfield		M, Bosch			4				13
14	Economy, T-LHD	1,250	Own	4	3 11/16x5½-21.1		N	P	C, Own		Zenith		B, Auto-Lite		C, Own	S, 3	Warner		Hartford	14
15	Elmira, C	500	Perkins	4	3¼x4-15.6		N	T	C, Bush		Zenith		Atwater-K		C, Own	S, 2	Own		Own	15
16	Geneva, 1		Beaver	2	5½x5½-22.1		N				Schebler		M, Simms		P, Warner	P, 2				16
17	GMC, 16		Continental, N	4	3½x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	17
18	International, H	1,850	Own	4	3½x5½-19.6	FS	Own	P	T, Long McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	18
19	Kearns, H	1,400	Hers'l-Spil 7000	4	3½x5-19.6	FS	N	T	C, G & O	N	Zenith	G	B	Y	P. Borg & B	S, 3	Grant Lees. K	N	Peters	19
20	Kissel, General Delivery	2,175	Own	4	3½x5½-24.0	S	Pierce	P	T, Sparks-W	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	20
21	Old Hickory, M	995	Lycoming	4	3½x5-16.9		N	T	C, Candler				Connecticut	Y	C, Lycoming	S, 3	Grant-Lees		Thermoid	21
22	Oldsmobile, Ecomony	1,250	Own	4	3 11/16x5½-21.7	F	N	P	C, Own	N	Zenith	G	B	Y	C	S, 3	Warner	N	Spicer	22
23	Patriot, Revere	1,785	Continental	4	3½x5-22.5	S	N	T	C, B & W	N	Stromberg	G	B	Y	P, Borg & B	S, 3	Covert, MA	N	Thermoid	23
24	Rainier, R11	1,85	0Continental N	4	3½x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	24
25	Reo, F	* 1,500	Own	4	4¼x4½-27.2	FS	N	P	T, Own	N	Johnson	G	B	Y	M, Own	S, 3	Own	N	Own	25
26	Stewart, 11	1,350	Le Roi, 2C	4	3¼x4½-15.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	Y	P, Borg & B	S, 3	Durston 02500B	N	Hartford	26
27	Texan	1,200	G B & S	4	4½x—28.9	F					Carter		M, Delco		M, G B & S	S 3	Grant-Lees			27
28	Triangle, AA	1,600	Herschell-Spil, 4	4	3½x5-16.9	S	N	T	T, Perfex	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU¾	N	Detroit	28
29	Watson, 21		Waukesha, BUX	4	3½x5½-22.5	S	Waukesha	P	C, G & O	N	Johnson	G	B	Y	M, Brown-L	S, 3	Brown-L, 35	N	M & E	29
30	White, 15	2,400	Own	4	3½x5½-22.5	FS	N	P	C	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	30
	2,000 Pounds:																			
31	Acason, R	2,400	Waukesha, BUX	4	3½x5½-22.5	F	Waukesha	P	C, National	Y	Marvel	G	M. Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N	Blood	31
32	Acme, B	2,175	Continental, N	4	3½x5-22.5	FS	Duplex	T	C, G and O	N	Rayfield	G	M Eisemann	N	P. Borg & B	I, 3	Cotta, BUC	N	Blood	32
33	All-American	1,795	Herschell-Spil	4	3½x5-19.6	FS	Pharo	T	C, Standard		Stromberg		M, Simms		M. Detlaff	I, 3	Cotta		Universal	33
34	Apex, C	1,745	Buda, RU	4	3½x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	B. Auto-Lite	N	M, Fuller	S, 3	Fuller, TU¾	N	Detroit	34
35	Atco, IG10	1,875	Buda, WU	4	3½x5½-22.5	F	N	T	T, Chicago	Y	Stromberg	G	M. Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	Y	Hartford	35
36	Belmont, B	1,950	G B & S, AA	4	3½x5-22.5	S	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	P, G B & S	S, 3	Grant-Lees, 515	N	Sterling	36
37	Bessemer, G	1,825	Continental, N	4	3½x5-19.6	S	N	T	C, Ideal	N	Zenith	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	37
38	Briscoe, T34	1,550	Own	4	3½x5-18.2	F	N	T	T, Perfex	Y	Buick	G	Connecticut	Y	C, Own	S, 3	Own		Universal	38
40	Chicago, C1	2,200	Hercules, CU2	4	3½x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	40
41	Clydesdale, 32C	2,375	Continental, N	4	3½x5½-22.5	S	Own	T	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	41
42	Collier, 18		Continental	4	3½x5-19.6		Monarch	P	T, Long		Zenith		M, Eisemann		M	S, 3	Fuller			42
43	Columbia, F	1,750	Continental, N	4	3½x5-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, B	N	Spicer	43
44	Commerce, E	1,855	Continental, N	4	3½x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S 3	Detroit, C	N	Spicer	44
45	Conestoga, 20	2 100	Continental, N	4	3½x5-19.6	FS		T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU¾	N	Sterling	45
46	Corbitt, E	2,200	Continental, N	4	3½x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	46
48	Day-Elder, A	2,100	Continental, N	4	3½x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	48
49	Denby, 12	1,950	Continental, N	4	3¼x5-19.6	F	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	49
50	Diehl, A	1,575	Continental, N	4	3¼x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Simms	N	P, Borg & B	S, 3	Durston, 02800		Hartford	50
51	Famous, B10	1,690	Continental	4	3¼x5-19.6		Monarch	T	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	51
52	Federal, SD	2 600	Continental, J-4	4	3½x5-22.5	F	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Own	N	Peters	52
53	Ford, T	550	Own	4	3¾x4-22.5	FS	N	T	T, Own	N	Kingston	G	M, Own	N	M, Own	P, 2	Own	N	Own	53
54	Fulton			4	3¼x5-19.6			T						Y	P, Borg & B	3				54
55	Gabriel, C	2,000	Buda	4	4¼x5½-28.9		N	P	C, G & O		Rayfield		M, Bosch		P. Borg & B	S, 3	Brown-Lipe		Spicer	55
56	Gary, F	2,100	Buda, WU	4	3½x5-22.5	F	Pierce	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Blood	56
57	Giant, 15	1,950	Continental, N	4	3½x5-22.5	FS	N	T	C, Ideal	N	Schebler	GK	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	57
58	GMC, 16		Continental, N	4	3½x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	58
59	Hahn, C	1,375	Continental, N	4	3¼x5-19.6	FS			T, Chicago		Stromberg		M, Eisemann		M, Detroit	S, 3	Detroit			59
60	Hal-Fur, C	2,000	Buda	4	4x5-25.6		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	60
61	Higrade, A18	2,100	Continental, N	4	3½x5-19.6	FS	Simplex		C, Perfex		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller			61
62	Hoover, 15B	1,435	Continental, N	4	3½x5-19.6	FS		T	C, Candler		Schebler		M, Splitdorf		M, Fuller	S, 3	Fuller			62
63	Independent (Ohio), F	1,685	Continental	4	3½x5-19.6		Monarch	T	T, National		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	63
64	International, F	2,050	Own	4	3½x5½-19.6	FS	Own	P	T, Long McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	64
65	Jones, 31A	1,395	Continental, N	4	3½x5-19.6	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Arvac	65
66	Kleiber, AA	2,600	Continental, C4	4	3½x5½-22.5	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Brown-L	S, 3	Brown-L,35	N	Spicer	66
67	Maccar, S1	2,400	Continental, J4	4	3½x5-22.5	F	N	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L 30	S, 3	Brown-L,30	N	Spicer	67
68	Menominee, Hurryton		Continental, N	4	3½x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M. Fuller	S, 3	Fuller, TU1	N	Spicer	68
69	Myers, 60	1,545	Lycoming	4	3½x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	M, Mechanics	S, 3	Mechanics	N	Universal	69
70	Napoleon, 9		Victory	4	3½x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	B	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	70
71	Nash, 2018	1,895	Own	4	3¼x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 3	Detroit, C	N	Own	71

* Chassis only.

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TRUCK SPECIFICATIONS

500—2,000 (Nash)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
1	C, Own			2, R		E,	R, Own	½, ½	Tuthill			L	Own		W, Prudden	90	28x3p-28x3p			1
2	B, Flint	Y	B	2, R	9½, 9½	C, E	P	½, ½	Mather	7, 8	36¾x1¾-50x2½	L	Lavine	36, 0	W, E & O.	113	31x4p-31x4p	2,200	45, 75	2
4	B, Timken			2, R		C, E	P									108	32x4-32x4			4
5	B			2, R					Detroit						W	114	33x4p-33x4p			5
6				2, R		E,	P	C, T							W	86	36x3½p-36x3½p			6
7	B, Peru, 3050		B	2, R	9½, 8½	E, C	P	½, C		6, 9	36x1¾-51x2	L	Ditweiler		W	108	30x3½p-30x3½p			7
8	W, Sheldon, W500	Y	W	2, R	11, 10½	E, E	P	½, ½	Shelden	8, 7	38x2-50x2	L	C.A.S.	30, 10	W, Hoopes	108	31x4p-31x4p	2,175	40, 70	8
9	B	Y	B	2, R	10, 10	C, E	P	½, ½		7, 8	36x2-50x2	L			W	114	32x4p-32x4p	1,900	60, 70	9
10	B	Y		2, R		C, E	P	½, ½		8, 10	36x2-46x2	L	C. A. S.		W	118	32x4p-32x4p			10
11	B, Std Pts, 3070	Y	B	2, R	10, 12	C, E	P, Detroit	½, ½	Mather	7, 9	36x2-50x2½	L	Ross	48, 0	W, Wayne	125	34x4½p-35x5p	2,660	—, 80	11
12	I, Torbensen, OX2	Y	B	2, R	9½, 10½	C, E	P, Savage	½, ½	Iron City	7, 9	36x2-48x2½	L	C.A.S.	44, 0	W, E & O.	124	32x4½p-32x4½p	2,800	50, 60	12
13	I			2, R				½, ½	Tuthill						W	120	34x4p-34x4p			13
14	I, Torbensen			2, R		C, E	P	½, ½	Spring Perch			L	Jacox		W, Auto	128	35x5p-35x5p			14
15	B, Own			2, R		E, E	R, Own	½, ½	Tuthill			L	Own			104	28x3p-28x3p			15
16	C, Sheldon			2, R					Sheldon						W	96	34x2-36x2½			16
17	B, Own	N	B	2, R	10¾, 8¾	C, E	P, Smith	½, ½	Detroit	8, 11	38x2½-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940	50, 67	17
18	I, Own		B	2, R	10½, 11½	E, E	P	½, ½		8, 10	41x2½-54x2½	L	Own		W	115	36x3-36x3½	2,900	50, 64	18
19	I, Torbensen, OX2L	Y	S	2, R	12, 13	E, C	P	½, ½	Mather	6, 9	36x2-50x2	L	Lavine		W, E & O.	118	32x4½p-32x4½p	2,200	65, 80	19
20	W, Own	Y	B	2, R	9¾, 10	E, E	P, Smith	½, ½	Mather	8, 10	36x2-50x2½	L	Jacox	50, 0	W, Prudden	135	34x4½p-34x4½p	2,900	52, 68	20
21	B, Salisbury			2, R		C, E	R, Own	½, ½	Spring Perch			L	C.A.S.		W, Salisbury	112	33x4p-33x4p			21
22	I, Torbensen, OX2	Y	W	2, R	10¾, 12	C, E	P, Smith	½, ½		7, 10	37x2-50x2½	L	Jacox	46, 0	W	128	35x5p-35x5p	2,580	55, 75	22
23	W, Empire, B	Y	B	2, R	13½, 12	E, E	P, Detroit	½, ½	Cooper	7, 12	38x2¼-50x2½	L	C.A.S.	43, 4	W, Bimel	128	35x5p-35x5p	2,800	42, 58	23
24	W, Timken 6352	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Perfection	8, 9	38x2-50x2½	L	Lavine		W, Schwarz	125	34x4½p-34x4½p	2,400	75, 75	24
25	B, Own	N	B	2, R	11¾, 9¼	C, E	P, Own	½, ½	Penn		38x2-40x2½	L	Own	44, 0	W	128	34x4½p-34x4½p	2,615	43½, 62½	25
26	I, Clark, AS	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	6, 9	37¾x2-48¾x2½	L	C.A.S.	42, 0	W, Wayne	110	32x4p-32x4p	2,190	53, 66⅔	26
27	B, Salisbury			2, R		E, E		½, ½							W	115	33x4p-33x4p			27
28	I, Clark, AS	Y	B	2, R		C, C	R, Mason	½, ½	Detroit	7, 10	42x2-54x2½	L	Gemmer		W, Hayes	115	35x5p-35x5p	2,600	60, 80	28
29	W, Empire, B	Y	B	2, R	10½, 11	E, E	P, Parish	½, ½	Sheldon	8, 8	40x2¼-50x2½	L	Lavine		W, Hoopes	128	34x4½p-34x4½p			29
30	B, Own	N	B	2, R	9½, 9	C, E	P	½, ½				L	Own	50, 4	W	133⅓	34x4½p-34x4½p	2,960	54, 70	30
31	W, Timken, 6352	Y	W	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	8, 12	40x2½-50x2½	L	Ross		W, Bimel	142	36x3½-36x5	3,650	—, 73	31
32	W, Timken, 6352	Y	B	2, R	9, 9½	E, E	P	½, ½	Detroit	7, 11	38x2½-52x2½	L	Ross	54, 0	W, Bimel	130	34x3½-34x5	3,200	50, 70	32
33	I, Torbensen		W, Powrlok	2, R		C, E	P, Detroit	½, ½	Detroit	9, 13	38x2-54x2½	L	Lavine		W	130	32x4-32x4			33
34	I, Torbensen	Y	W, Powrlok	2, R	10½, 11½	C, E	R	½, ½	Detroit	8, 11	36x2-52½x2½	L	Lavine		W, Bimel	130	33x4p-32x3½	2,870	—, 66	34
35	I	Y		2, R				½, ½			40x2½-50x2½	L	Ross		W	132	34x4½p-36x6p			35
36	I, Clark	N	B	2, R	12, 12	C, E	R, Savage	½, ½	Mather	7, 11	40x2½-52½x2½	L	Lavine	44, 0	W, E & O.	144	34x4½p-36x5	3,200	50, 75	36
37	I, Torbensen, A	Y	B	2, R	11, 11¾	C, E	P	½, ½	Perfection	8, 10	39x2¼-52x2½	L	Ross	54, 0	W, Schwarz	124	34x3-34x4	2,910	47, 60	37
38	I, Russel	Y	B	2, R	9½, 9½	C, E	P, Parish	½, ½	Alloy	7, 11	38x2½-52x2½	L	Lavine	45, 0	W, Hayes	121	33x4-34x3½	2,958		38
40	W, Timken, 6460	Y	B	2, R	10½, 11	E, E	R, Own	½, ½	Mather	8, 9	40x2½-54x3	L	Gemmer		W, Standard	132	36x3-36x4	3,800	60, 75	40
41	W, Std Pts, 602	N	B	2, R	11, 10	E, E	P, Parish & B	½, ½	Perfection	9, 7	36x2½-52x3	L	Ross		W, Bimel	144	34x3½-34x5	3,500	51, 62	41
42	W			2, R		E, E	P	½, ½					Ross			140	34x4-34x5			42
43	I, Russel, PI300	Y	B	2, R		C, E	R, Own	½, ½	Perfection	8, 10	38x2½-48x3	L	Own		W, St. Mary	120	34x3½-34x4	3,300		43
44	I, Torbensen, A	Y	B	2, R	10, 11½	C, E	P, Detroit	½, ½	Detroit	8, 10	36x2½-50x3	L	Jacox	46, 0	W, Bimel	126	34x3½-34x4	2,900		44
45	W, Wis., 800D	Y	W	2, R	10½, 9	E, E	R, Own	½, ½	Iron City	8, 10	36x2¼-48x2½	L	Ross	50, 0	W, E & O.	128	34x3½-34x5	3,400	50, 65	45
46	W, Sheldon	Y	W	2, R		E, E	R, Own	½, ½	Mather	8, 10	38x2½-50x2½	L	Ross		W, Bimel	130	34x3½-34x4		70, 70	46
48	W, Sheldon, W1500	Y	B	2, R	10, 9¾	E, E	P, Savage	½, ½	Iron City	8, 12	40x2½-54x2½	L	Gemmer	46, 6	W, Jones	128	34x3½-34x4	3,250	50, 70	48
49	I, Russel, P	Y	B	2, R	10, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	43½x2¼-48x2½	L	Ross	54, 0	W, Hayes	124	35x5p-36x6p	2,770	51, 73	49
50	I, Torbensen OX2L	Y	W	2, R	10, 12	C, C		½, ½	Rowland	8, 12	34½x2½-48x2½	L	Jacox	18, 0	W, Schwarz	115	34x4½p-35x5p	2,400	—, 90	50
51	I, Clark			2, R		C, C	P, Savage	½, ½	Sheldon			L	Ross		W, Bimel	120	36x3½-36x4			51
52	W, Timken, 6352	N	B	2, R	13, 12	E, E	P	½, ½	Mather	7, 8	40x2½-52x2½	L	Gemmer	46, 9	S, Detroit	132	35x5p-36x6p	3,600	55, 70	52
53	W, Own	N	W	2, R	10½, 8½	C, E	P, Parish & B	½, ½	Own	7, 9	31⅝x1½-16½x3	L	Own	46, 0	W	124	30x3p-32x3½	1,465		53
54	I			2, R		C, C	P								W					54
55	W, Timken			2, R		E, E	P, Parish	½, ½	Merrill			L	Gemmer		W, Standard	136	35x5p-35x5p			55
56	W, Timken, 6352	Y	W	2, R	12½, 11½	E, E	P	½, ½	Tuthill	8, 11	40x2½-52x2½	L	Ross	42, 0	W, Prudden	130	36x3½-36x4	3,200	50, 20	56
57	W, Sheldon, W1500	Y	B	2, R	13, 9¾	E, E	P, Hydraulic	½, ½	Mather	6, 9	38x2-48x2½	R	Jacox		W, Wayne	130	34x3½-34x5	2,950	50, 68	57
58	B, Own	N	B	2, R	10¾, 8¾	E, E	P	½, ½	Detroit	8, 11	38x2½-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940	50, 67	58
59	I, Torbensen			2, R			P, Parish	½, ½	Delaney				Lavine		W	127	34x3-34x4			59
60	W, Timken			2, R		E, E	P, Parish & B	½, ½	Spring Perch			L	Gemmer		W, Standard	136	35x5p-35x5p			60
61	W, Sheldon			2, R		E, E	P, Own	½, ½	Perfection				Lavine		W, Prudden	115	35x5-35x5			61
62	W, Sheldon			2, R		E, E	P, Detroit	½, ½	Sheldon				Lavine		W	120	32x4-33x4½			62
63	W, Chicago			2, R		E, E	P, Parish & B	½, ½	Iron City			L	Ross		W, Wayne	128	34x3½-34x4			63
64	I, Own		B	2, R	10½, 11½	E, E	P	½, ½		10, 12	40¾x2½-54x2½	L	Own		W	128	36x3½-36x4	3,000	50, 64	64
65	I, Russel, O	Y	S	2, R	11½, 11½	C, E	P, Hydraulic	½, ½	Champion	9, 11	37x2½-51½x2½	L	C.A.S.	40, 0	W, Prudden	130	34x3½-34x4	3,400	20, 80	65
66	W, Timken, 6460	Y	W	2, R	9, 9	E, E	R	½, ½	Betts	7, 11	44x2½-52x3	R	Ross		W, W't'rh'se	130	34x3½-34x5	4,300	50, 75	66
67	W, Timken, 6352	N	B	2, R		E, E	P, Parish	½, ½	Merrill	7, 10	40x2-52x2½	L	Ross		W, Schwarz	138	34x3½-34x5	3,500	47, 70	67
68	W, Timken, 6460	N	B	2, R		E, E	R	½, ½	Tuthill	9, 12	39x2½-50x2½	L	Ross		W, Standard	130	34x3½-34x4	3,600		68
69	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	7, 8	36x2-50x3	L	C.A.S.		W, E & O.	130	34x2½-34x4	2,850	50, 75	69
70	I, Clark, AS	N	B	2, R	14, 14	C, C	R, Own	½, ½	Mather	8, 10	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-35x5p	3,200	50, 65	70
71	I, Clark, I	Y	W	2, R	9¾, 9¾	C, C	P, Own	½, ½	Alloy	10, 12	37½x2½-52x2½	L	Jacox	47, 0	W, Auto	130	34x3-34x4	3,400	44, 67½	71

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500—2,000 (Nash) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	500 Pounds:																			
1	Pony	$320	Own	4	2½x4-12.1			T	C, Own		Stromberg		Atwater-K			F, 3				1
	1,000 Pounds:																			
2	Belmont, A	1,150	G B & S-A	4	3½x4½-22.5	S	Pierce	T	C. Modine	N	Zenith	G	B	Y	P. G B & S	S, 3	Grant-Lees, K	N	Sterling	2
4	Croce, 17	825	Wisconsin	4	3½x5-16.9						Zenith	G	M. Bosch		M, Brown-L	S, 3	Brown-Lipe			4
5	Dodge	935	Own	4	3½x4½-24.2	FS		P	T		Stewart		B, Northeast		M	S, 3				5
6	Duryea, C	675			12.0	S	N				Kingston		M, Bosch							6
7	Seneca, M		Le Roi, C	4	3½x4½-15.9	FS		T	C, Kuntz	N	Schebler	G	BM, Bosch	Y	P, Borg & B	S, 3	Warner, B	N	Universal	7
8	Vim, 29	1,355	Own	4	3½x4½-15.6	FS	N	T	T, McCord	N	Zenith	G	B	Y	P, Own	S, 3	Own	N	Spicer	8
	1,200 Pounds:																			
9	Champion	1,100	Light	4	3¼x4½-16.9	S	N	T	C, Jamestown	N	Carter	G	B	N	P, Borg & B	S, 3		N		9
	1,500 Pounds:																			
10	Atlas	1,260		4	3½x5-19.6	S		T	C	N		G	B	N	P. Borg & B	S, 3		N		10
11	Bethlehem, K		Own	4	3½x5-19.6	F	N	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P. Borg & B	S, 3	Detroit, DY	N	Spicer	11
12	Conetsoga, 12	1,850	Continental, N	4	3½x5-19.6	FS		T	C, Fedders	N	Stromberg	G	M, Simms	Y	M, Fuller	S, 3	Fuller, TU½	N	Spicer	12
13	Dispatch, G	1,200	Wisconsin	4	3½x5-22.5	F		T			Rayfield		M, Bosch			4				13
14	Economy, T-LHD	1,250	Own	4	3 11/16x5½-21.1		N	P	C, Own		Zenith		B. Auto-Lite		C, Own	S, 3	Warner		Hartford	14
15	Elmira, C	500	Perkins	4	3½x4-15.6		N	T	C, Bush		Zenith		Atwater-K		C, Own	S, 2	Own		Own	15
16	Geneva, 1		Beaver	2	5½x5½-22.1		N				Schebler		M, Simms		P. Warner	P, 2				16
17	GMC, 16		Continental, N	4	3½x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	17
18	International, H	1,850	Own	4	3½x5½-19.6	FS	Own	P	T, Long. MeC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	18
19	Kearns, H	1,400	Hers'l-Spil 7000	4	3½x5-19.6	FS	N	T	C, G & O	N	Zenith	G	B	Y	P. Borg & B	S, 3	Grant Lees, K	N	Peters	19
20	Kissel, General Delivery	2,175	Own	4	3½x5½-24.0	S	Pierce	P	T, Sparks-W	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	20
21	Old Hickory, M	995	Lycoming	4	3½x5-16.9		N	T	C, Candler				Connecticut	Y	C, Lycoming	S, 3	Grant-Lees		Thermoid	21
22	Oldsmobile, Ecomony	1,250	Own	4	3 11/16x5½-21.7	F	N	P	C, Own	N	Zenith	G	B	Y	C	S, 3	Warner	N	Spicer	22
23	Patriot, Revere	1,785	Continental	4	3½x5-22.5	S	N	T	C, B & W	N	Stromberg	G	B	Y	P, Borg & B	S, 3	Covert, MA	N	Thermoid	23
24	Rainier, R11	1,85	0Continental N	4	3½x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	24
25	Reo, F	* 1.500	Own	4	4½x4½-27.2	FS	N	P	T, Own	N	Johnson	G	B	Y	M, Own	S, 3	Own	N	Own	25
26	Stewart, 11	1,350	Le Roi, 2C	4	3½x4½-15.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	Y	P, Borg & B	S, 3	Durston 02500B	N	Hartford	26
27	Texan	1,200	G B & S	4	4½x—28.9	F					Carter		M, Delco		M, G B & S	S 3	Grant-Lees			27
28	Triangle, AA	1,600	Herschell-Spil, 4	4	3½x5-16.9	S	N	T	T, Perfex	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU½	N	Detroit	28
29	Watson, 21		Waukesha, BUX	4	3½x5½-22.5	S	Waukesha	P	C, G & O	N	Johnson	G	B	Y	M. Brown-L	S, 3	Brown-L, 35	N	M & E	29
30	White, 15	2,400	Own	4	3½x5½-22.5	FS	N	P	C	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	30
	2,000 Pounds:																			
31	Acason, R	2,400	Waukesha, BUX	4	3½x5½-22.5	F	Waukesha	P	C, National	Y	Marvel	G	M. Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N	Blood	31
32	Acme, B	2,175	Continental, N	4	3½x5-22.5	FS	Duplex	T	C, G and O	N	Rayfield	G	M Eisemann	N	P. Borg & B	I, 3	Cotta, BUC	N	Blood	32
33	All-American	1,795	Herschell-Spil	4	3½x5-19.6	FS	Pharo	T	C, Standard		Stromberg		M, Simms		M. Detlaff	I, 3	Cotta		Universal	33
34	Apex, C	1,745	Buda, RU	4	3½x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	B. Auto-Lite	N	M. Fuller	S, 3	Fuller, TU½	N	Detroit	34
35	Atco, IG10	1,875	Buda, WU	4	3½x5½-22.5	F	N	T	T, Chicago	Y	Stromberg	G	M. Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	Y	Hartford	35
36	Belmont, B	1,950	G B & S, AA	4	3½x5-22.5	S	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	P. G B & S	S, 3	Grant-Lees, 515	N	Sterling	36
37	Bessemer, G	1,825	Continental, N	4	3½x5-19.6	S	N	T	C, Ideal	N	Zenith	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU½	N	Arvac	37
38	Briscoe, T34	1,550	Own	4	3½x5-18.2	F	N	T	T, Perfex	Y	Buick	G	Connecticut	Y	C. Own	S, 3	Own		Universal	38
40	Chicago, C1	2,200	Hercules. CU2	4	3½x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	40
41	Clydesdale, 32C	2,375	Continental, N	4	3½x5½-22.5	S	Own	T	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	41
42	Collier, 18		Continental	4	3½x5-19.6		Monarch	P	T, Long		Zenith		M, Eisemann		M	S, 3	Fuller			42
43	Columbia, F	1,750	Continental, N	4	3½x5-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, B	N	Spicer	43
44	Commerce, E	1,855	Continental, N	4	3½x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C. Detroit	S 3	Detroit, C	N	Spicer	44
45	Conestoga, 20	2 100	Continental, N	4	3½x5-19.6	FS		T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU½	N	Sterling	45
46	Corbitt, E	2,200	Continental, N	4	3½x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	46
48	Day-Elder, A	2,100	Continental, N	4	3½x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	48
49	Denby, 12	1,950	Continental, N	4	3½x5-19.6	F	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller. TU½	N	Universal	49
50	Diehl, A	1,575	Continental, N	4	3½x5-19.6	FS	N	T	C. Standard	N	Zenith	G	M, Simms	N	P. Borg & B	S, 3	Durston, 02800		Hartford	50
51	Famous, B10	1,690	Continental	4	3½x5-19.6		Monarch	T	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	51
52	Federal, SD	2 600	Continental, J-4	4	3½x5-22.5	F	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P. Borg & B	S, 3	Own	N	Peters	52
53	Ford, T	550	Own	4	3½x4-22.5	FS	N	T	T, Own	N	Kingston	G	M, Own	N	M. Own	P, 2	Own	N	Own	53
54	Fulton			4	3½x5-19.6			T						Y	P, Borg & B	3				54
55	Gabriel, C	2,000	Buda	4	4½x5½-28.9		N	P	C, G & O		Rayfield		M, Bosch		P. Borg & B	S, 3	Brown-Lipe		Spicer	55
56	Gary, F	2,100	Buda, WU	4	3½x5-22.5	F	Pierce	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	Blood	56
57	Giant, 15	1,950	Continental, N	4	3½x5-22.5	FS	N	T	C, Ideal	N	Schebler	GK	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	57
58	GMC, 16		Continental, N	4	3½x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	58
59	Hahn, C	1,375	Continental, N	4	3½x5-19.6	FS			T, Chicago		Stromberg		M, Eisemann		M, Detroit	S, 3	Detroit			59
60	Hal-Fur, C	2,000	Buda	4	4x5-25.6		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	60
61	Higrade, A18	2,100	Continental, N	4	3½x5-19.6	FS	Simplex		C, Perfex		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller			61
62	Hoover, 15B	1,435	Continental, N	4	3½x5-19.6	FS		T	C, Candler		Schebler		M, Splitdorf		M, Fuller	S, 3	Fuller			62
63	Independent (Ohio), F	1,685	Continental	4	3½x5-19.6		Monarch	T	T, National		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	63
64	International, F	2,050	Own	4	3½x5½-19.6	FS	Own	P	T, Long. MeC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	64
65	Jones, 31A	1,395	Continental, N	4	3½x5-19.6	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Eisemann	N	P. Borg & B	S, 3	Grant-Lees, 515	N	Arvac	65
66	Kleiber, AA	2,600	Continental, C4	4	3½x5½-22.5	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	66
67	Maccar, S1	2,400	Continental, J4	4	3½x5-22.5	F	N	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L, 30	S, 3	Brown-L, 30	N	Spicer	67
68	Menominee, Hurryton		Continental, N	4	3½x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M. Fuller	S, 3	Fuller, TU1	N	Spicer	68
69	Myers, 60	1,545	Lycoming	4	3½x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	M, Mechanics	S, 3	Mechanics	N	Universal	69
70	Napoleon, 9		Victory	4	3½x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	B	N	M, Fuller	S, 3	Fuller, TU½	N	Universal	70
71	Nash, 2018	1,895	Own	4	3½x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 3	Detroit, C	N	Own	71

* Chassis only.

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TRUCK SPECIFICATIONS

500—2,000 (Nash)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
1	C, Own	....	.....	2, R	.....	E,	R, Own	½, ½	Tuthill	.....	.....	L	Own	.....	W, Prudden	90	28x3p-28x3p	.....	.....	1
2	B, Flint	Y	B	2, R	9½, 9½	C, E	P	½, ½	Mather	7, 8	36½x1¾-50x2½	L	Lavine	36, 0	W, E & O.	113	31x4p-31x4p	2,200	45, 75	2
4	B, Timken	....	.....	2, R	.....	C, E	P	.....	.....	.....	.....	....	.....	.....	.....	108	32x4-32x4	.....	.....	4
5	B	....	.....	2, R	.....	.....	.....	.....	Detroit	.....	.....	....	.....	.....	W	114	33x4p-33x4p	.....	.....	5
6	.....	....	.....	2, R	.....	E,	P	C, T	.....	.....	.....	....	.....	.....	W	86	36x3½p-36x3½p	.....	.....	6
7	B, Peru, 3050	...	B	2, R	9½, 8½	E, C	P	½, C	.....	6, 9	36x1¾-51x2	L	Ditweiler	.....	W	108	30x3½p-30x3½p	.....	.....	7
8	W, Sheldon, W500	Y	W	2, R	11, 10½	E, E	P	½, ½	Shelden	8, 7	38x2-50x2	L	C.A.S.	30, 10	W, Hoopes	108	31x4p-31x4p	2,175	40, 70	8
9	B	Y	B	2, R	10, 10	C, E	P	½, ½	.....	7, 8	36x2-50x2	L	.....	.....	W	114	32x4p-32x4p	1,900	60, 70	9
10	B	Y	.....	2, R	.....	C, E	P	½, ½	.....	8, 10	36x2-46x2	L	C. A. S.	.....	W	118	32x4p-32x4p	.....	.....	10
11	B, Std Pts, 3070	Y	B	2, R	10, 12	C, E	P, Detroit	½, ½	Mather	7, 9	36x2-50x2½	L	Ross	48, 0	W, Wayne	125	34x4½p-35x5p	2,660	—, 80	11
12	I, Torbensen, OX2	Y	B	2, R	9¾, 10½	C, E	P, Savage	½, ½	Iron City	7, 9	36x2-48x2½	L	C.A.S.	44, 0	W, E & O.	124	32x4½p-32x4½p	2,800	50, 60	12
13	I	....	.....	2, R	.....	.....	.....	½, ½	Tuthill	.....	.....	....	.....	.....	W	120	34x4p-34x4p	.....	.....	13
14	I, Torbensen	....	.....	2, R	.....	C, E	P	½, ½	Spring Perch	.....	.....	L	Jacox	.....	W, Auto	128	35x5p-35x5p	.....	.....	14
15	B, Own	....	.....	2, R	.....	E, E	R, Own	½, ½	Tuthill	.....	.....	L	Own	.....	.....	104	28x3p-28x3p	.....	.....	15
16	C, Sheldon	....	.....	2, R	.....	.....	.....	.....	Sheldon	.....	.....	....	.....	.....	W	96	34x2-36x2½	.....	.....	16
17	B, Own	N	B	2, R	10¾, 8½	C, E	P, Smith	½, ½	Detroit	8, 11	38x2½-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940	50, 67	17
18	I, Own	....	B	2, R	10½, 11½	E, E	P	½, ½	.....	8, 10	41x2½-54x2½	L	Own	.....	W	115	36x3-36x3½	2,900	50, 64	18
19	I, Torbensen, OX2L	Y	S	2, R	12, 13	E, C	P	½, ½	Mather	6, 9	36x2-50x2	L	Lavine	.....	W, E & O.	118	32x4½p-32x4½p	2,200	65, 80	19
20	W, Own	Y	B	2, R	9½, 10	E, E	P, Smith	½, ½	Mather	8, 10	36x2-50x2½	L	Jacox	50, 0	W, Prudden	135	34x4½p-34x4½p	2,900	52, 68	20
21	B, Salisbury	....	.....	2, R	.....	C, E	R, Own	½, ½	Spring Perch	.....	.....	L	C.A.S.	.....	W, Salisbury	112	33x4p-33x4p	.....	.....	21
22	I, Torbensen, OX2	Y	W	2, R	10¾, 12	C, E	P, Smith	½, ½	.....	7, 10	37x2-50x2½	L	Jacox	46, 0	W	128	35x5p-35x5p	2,580	55, 75	22
23	W, Empire, B	Y	B	2, R	13½, 12	E, E	P, Detroit	½, ½	Cooper	7, 12	38x2½-50x2½	L	C.A.S.	43, 4	W, Bimel	128	35x5p-35x5p	2,800	42, 58	23
24	W, Timken 6352	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Perfection	8, 9	38x2-50x2½	L	Lavine	.....	W, Schwarz	125	34x4½p-34x4½p	2,400	75, 75	24
25	B, Own	N	B	2, R	11½, 9¼	C, E	P, Own	½, ½	Penn	.....	38x2-40x2½	L	Own	44, 0	W	128	34x4½p-34x4½p	2,615	43½, 62½	25
26	I, Clark, AS	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	6, 9	37½x2-48½x2½	L	C.A.S.	42, 0	W, Wayne	110	32x4p-32x4p	2,190	53, 66⅔	26
27	B, Salisbury	....	.....	2, R	.....	E, E	.....	½, ½	.....	.....	.....	....	.....	.....	W	115	33x4p-33x4p	.....	.....	27
28	I, Clark, AS	Y	B	2, R	.....	C, C	R, Mason	½, ½	Detroit	7, 10	42x2-54x2½	L	Gemmer	.....	W, Hayes	115	35x5p-35x5p	2,600	60, 80	28
29	W, Empire, B	Y	B	2, R	10½, 11	E, E	P, Parish	½, ½	Sheldon	8, 8	40x2½-50x2¼	L	Lavine	.....	W, Hoopes	128	34x4½p-34x4½p	.....	.....	29
30	B, Own	N	B	2, R	9¼, 9	C, E	P	½, ½	.....	.....	.....	L	Own	50, 4	W	133½	34x4½p-34x4½p	2,960	54, 70	30
31	W, Timken, 6352	Y	W	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	8, 12	40x2½-50x2½	L	Ross	.....	W, Bimel	142	36x3½-36x5	3,650	—, 73	31
32	W, Timken, 6352	Y	B	2, R	9, 9½	E, E	P	½, ½	Detroit	7, 11	38x2½-52x2½	L	Ross	54, 0	W, Bimel	130	34x3½-34x5	3,200	50, 70	32
33	I, Torbensen	....	W, Powrlok	2, R	.....	C, E	P, Detroit	½, ½	Detroit	9, 13	38x2-54x2½	L	Lavine	.....	W	130	32x4-32x4	.....	.....	33
34	I, Torbensen	Y	W, Powrlok	2, R	10¼, 11¼	C, E	R	½, ½	Detroit	8, 11	36x2-52½x2½	L	Lavine	.....	W, Bimel	130	33x4p-32x3½	2,870	—, 66	34
35	I	Y	.....	2, R	.....	.....	.....	½, ½	.....	.....	40x2½-50x2½	L	Ross	.....	W	132	34x4½p-36x6p	.....	.....	35
36	I, Clark	N	B	2, R	12, 12	C, E	R, Savage	½, ½	Mather	7, 11	40x2½-52½x2½	L	Lavine	44, 0	W, E & O.	144	34x4½p-36x5	3,200	50, 75	36
37	I, Torbensen, A	Y	B	2, R	11, 11¾	C, E	P	½, ½	Perfection	8, 10	39x2½-52x2½	L	Ross	54, 0	W, Schwarz	124	34x3-34x4	2,910	47, 60	37
38	I, Russel	Y	B	2, R	9½, 9½	C, E	P, Parish	½, ½	Alloy	7, 11	38x2½-52x2½	L	Lavine	45, 0	W, Hayes	121	33x4-34x3½	2,958	.....	38
40	W, Timken, 6460	Y	B	2, R	10½, 11	E, E	R, Own	¼, ½	Mather	8, 9	40x2½-54x3	L	Gemmer	.....	W, Standard	132	36x3-36x4	3,800	60, 75	40
41	W, Std Pts, 602	N	B	2, R	11, 10	E, E	P, Parish & B	½, ½	Perfection	9, 7	36x2½-52x3	L	Ross	.....	W, Bimel	144	34x3½-34x5	3,500	51, 62	41
42	W	....	.....	2, R	.....	E, E	P	½, ½	.....	.....	.....	....	Ross	.....	.....	140	34x4-34x5	.....	.....	42
43	I, Russel, PI300	Y	B	2, R	.....	C, E	R, Own	½, ½	Perfection	8, 10	38x2½-48x3	L	Own	.....	W, St. Mary	120	34x3½-34x4	3,300	.....	43
44	I, Torbensen, A	Y	B	2, R	10, 11½	C, E	P, Detroit	½, ½	Detroit	8, 10	36x2½-50x3	L	Jacox	46, 0	W, Bimel	126	34x3½-34x4	2,900	.....	44
45	W, Wis., 800D	Y	W	2, R	10½, 9	E, E	R, Own	½, ½	Iron City	8, 10	36x2½-48x2½	L	Ross	50, 0	W, E & O.	128	34x3½-34x5	3,400	50, 65	45
46	W, Sheldon	Y	W	2, R	.....	E, E	R, Own	½, ½	Mather	8, 10	38x2½-50x2½	L	Ross	.....	W, Bimel	130	34x3½-34x4	.....	70, 70	46
48	W, Sheldon, W1500	Y	B	2, R	10, 9¾	E, E	P, Savage	½, ½	Iron City	8, 12	40x2½-54x2½	L	Gemmer	46, 6	W, Jones	128	34x3½-34x4	3,250	50, 70	48
49	I, Russel, P	Y	B	2, R	10, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	43½x2½-48x2½	L	Ross	54, 0	W, Hayes	124	35x5p-36x6p	2,770	51, 73	49
50	I, Torbensen OX2L	Y	W	2, R	10, 12	C, C	.....	½, ½	Rowland	8, 12	34½x2½-48x2½	L	Jacox	18, 0	W, Schwarz	115	34x4p-35x5p	2,400	—, 90	50
51	I, Clark	....	.....	2, R	.....	C, C	P, Savage	½, ½	Sheldon	.....	.....	L	Ross	.....	W, Bimel	120	36x3½-36x4	.....	.....	51
52	W, Timken, 6352	N	B	2, R	13, 12	E, E	P	½, ½	Mather	7, 8	40x2½-52x2½	L	Gemmer	46, 9	S, Detroit	132	35x5p-36x6p	3,600	55, 70	52
53	W, Own	N	W	2, R	10¾, 8½	C, E	P, Parish & B	½t, ½t	Own	7, 9	31⅝x1½-16½x3	L	Own	46, 0	W	124	30x3p-32x3½	1,465	.....	53
54	I	....	.....	2, R	.....	C, C	P	.....	.....	.....	.....	....	.....	.....	W	.....	.....	.....	.....	54
55	W, Timken	....	.....	2, R	.....	E, E	P, Parish	½, ½	Merrill	.....	.....	L	Gemmer	.....	W, Standard	136	35x5p-35x5p	.....	.....	55
56	W, Timken, 6352	Y	W	2, R	12½, 11½	E, E	P	½, ½	Tuthill	8, 11	40x2½-52x2½	L	Ross	42, 0	W, Prudden	130	36x3½-36x4	3,200	50, 20	56
57	W, Sheldon, W1500	Y	B	2, R	13, 9¾	E, E	P, Hydraulic	½, ½	Mather	6, 9	38x2-48x2½	R	Jacox	.....	W, Wayne	130	34x3½-34x5	2,950	50, 68	57
58	B, Own	N	B	2, R	10¾, 8¾	E, E	P	½, ½	Detroit	8, 11	38x2½-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940	50, 67	58
59	I, Torbensen	....	.....	2, R	.....	.....	P, Parish	½, ½	Delaney	.....	.....	....	Lavine	.....	W	127	34x3-34x4	.....	.....	59
60	W, Timken	....	.....	2, R	.....	E, E	P, Parish & B	½, ½	Spring Perch	.....	.....	L	Gemmer	.....	W, Standard	136	35x5p-35x5p	.....	.....	60
61	W, Sheldon	....	.....	2, R	.....	E, E	P, Own	½, ½	Perfection	.....	.....	....	Lavine	.....	W, Prudden	115	35x5-35x5	.....	.....	61
62	W, Sheldon	....	.....	2, R	.....	E, E	P, Detroit	½, ½	Sheldon	.....	.....	....	Lavine	.....	W	120	32x4-33x4½	.....	.....	62
63	W, Chicago	....	.....	2, R	.....	E, E	P, Parish & B	½, ½	Iron City	.....	.....	L	Ross	.....	W, Wayne	128	34x3½-34x4	.....	.....	63
64	I, Own	....	B	2, R	10½, 11½	E, E	P	½, ½	.....	10, 12	40½x2½-54x2½	L	Own	.....	W	128	36x3½-36x4	3,000	50, 64	64
65	I, Russel, O	Y	S	2, R	11½, 11½	C, E	P, Hydraulic	½, ¼	Champion	9, 11	37x2½-51½x2¼	L	C.A.S.	40, 0	W, Prudden	130	34x3½-34x4	3,400	20, 80	65
66	W, Timken, 6460	Y	W	2, R	9, 9	E, E	R	½, ¼	Betts	7, 11	44x2½-52x3	R	Ross	.....	W, W't'r'se	130	34x3½-34x5	4,300	50, 75	66
67	W, Timken, 6352	N	B	2, R	.....	E, E	P, Parish	½, ¼	Merrill	7, 10	40x2-52x2½	L	Ross	.....	W, Schwarz	138	34x3½-34x5	3,500	47, 70	67
68	W, Timken, 6460	N	B	2, R	.....	E, E	R	½, ½	Tuthill	9, 12	39x2½-50x2¼	L	Ross	.....	W, Standard	130	34x3½-34x4	3,600	.....	68
69	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	7, 8	36x2-50x3	L	C.A.S.	.....	W, E & O.	130	34x2½-34x4	2,850	50, 75	69
70	I, Clark, AS	N	B	2, R	14, 14	C, C	R, Own	½, ½	Mather	8, 10	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-35x5p	3,200	50, 65	70
71	I, Clark, 1	Y	W	2, R	9½, 9¾	C, C	P, Own	½, ½	Alloy	10, 12	37½x2½-52x2½	L	Jacox	47, 0	W, Auto	130	34x3-34x4	3,400	44, 67½	71

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2,000 (National)—3,000 (Kearns) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	2,000 Pds.—Con.																			
72	National, FA	.....	Waukesha, BUX	4	3½x5½-22.5	S	Waukesha	P	C,McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	72
73	Noble, A20	.....	Buda	4	3½x5½-22.5		Pierce	P	T, Chicago	Y	Stromberg	Y	M, Eisemann		M, Fuller	S, 3	Fuller		M & E	73
74	Ogden, A1	.....	Continental, N.	4	3½x5-22.5	S	Pierce	T	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Acme	74
75	Palmer	1,585	Continental, N.	4	3½x5-22.5	FS	Pierce	P	C, Fedders		Stromberg		M, Bosch		M, Fuller	S, 3	Fuller			75
76	Rainier, R9	2,050	Continental, N.	4	3½x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L 25	Y	Hartford	76
77	Republic, 10	.....	Continental, N.	4	3½x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	77
78	Royal	2,400	Wisconsin	4	3½x5-16.9		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			78
79	Sandow, G	2,295	Continental, N.	4	3½x5-19.5	S	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	79
80	Service, 220	2,415	Buda, RU	4	3½x5½-19.6	FS	N	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Arvac	80
81	Signal, F	2,750	Continental, C4.	4	4½x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	81
82	Southern, 10	1,875	Buda, RU	4	3½x5½-19.6	FS	Pierce	T	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 4	Fuller	N	Spicer	82
83	Standard, 56	.....	Continental, N.	4	3½x5-22.5	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	83
84	Stewart, 12	1,655	Continental, N.	4	3½x5-19.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Durston, 02800	N	Hartford	84
85	Superior, D	1,800	Continental, N.	4	3½x5-22.5	F	Pierce	T	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	Y	Arvac	85
86	Transport 20	1,850	Continental, N.	4	3½x5-22.5	FS	Simplex	T	C, Siprex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	86
87	Traylor, B	2,075	Buda, WU	4	3½x5½-22.5	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N		87
88	Vim, 22	2 195	Hercules	4	3½x5½-22.5	F	N	T	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	88
88a	White Hickory, E	2,450	Continental, N.	4	3½x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	M & E	88a
88b	Wichita, K	2,300	Own	4	3½x5-19.6	S	N	T	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	88b
89	Wilcox, A	.....	Buda, QU	4	3½x5½-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N		89
90	Witt-Will, N	2,000	Continental	4	3½x5-22.5		Pierce	P	C, Bremer		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	90
	2,500 Pounds:																			
91	Garford, 25	2,090		4	3½x5½-22.5	S	Monarch	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M	S, 3		N		91
92	Hahn, C	1,950	Continental C4	4	4½x5½-27.2	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-L			92
93	Indiana, 12	2,425	Waukesha, BUX	4	3½x5½-22.5	F	Waukesha	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, G1	N	Acme	93
94	Koehler, C	1,985	Hers'l-Spil. 7000.	4	3½x5-19.6	F	Simplex	T	C, Gordon	Y	Zenith	G	M, Eisemann	N	P, Mechanics	S, 3	Mechanics, LU	N	Kinsler-B	94
95	Old Hickory, W	2,175	Continental, N.	4	3½x5-22.5	FS	Pierce	T	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Blood	95
95a	Oneida, A9	2,350		4	3½x5½-22.5	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3		N	Peters	95a
	3,000 Pounds:																			
97	Acason, RB	2,650	Waukesha, BUX	4	3½x5½-22.5	F	Waukesha	P	C, National	Y	Marvel	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	97
98	Ace, C	2,750	Buda, WU	4	3½x5½-22.5	F	Pierce	T	C, Modine	Y	Schebler	G	B, Westingh'e	Y	M, M & E	I, 3	Cotta, AA	N	M & E	98
99	Acme, F	2,475	Continental, J4	4	3½x5-22.5	F	Duplex	T	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 3	Cotta, BUC	N	Blood	99
99a	Aetna	2,775	Wisc., CAU	4	3½x5½-22.5	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, A	N	Spicer	99a
99b	All-American	2,195	Herschell-Spill'n	4	3½x5-19.6	FS		T			Stromberg		M, Simms		M	I, 4	Cotta			99b
100	Apex, D	1,915	Buda, RU	4	3½x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	B, Auto-Lite	N	M, Fuller	I, 4	Fuller, TU¾	N	Detroit	100
100a	Available, H1½	2,550	Hercules, CU3	4	4x5½-25.6	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	I, 4	Cotta, A	N	M & E	100a
101	Beck, A	1,750	Continental	4	3½x5-22.5	S	Pierce	T	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	Y	Blood	101
102	Bell	.....	Buda, CTU	4	3½x5½-22.5	F	Duplex	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit, DX	Y	Universal	102
103	Bessemer, H2	2,445	Continental, N.	4	3½x5-22.5	S	Pierce	T	C, Standard	N	Zenith	G	M, Bosch	N	P, Borg & B	S, 3	Brown-L, 35	N	Arvac	103
104	Bethlehem, G	.....	Own	4	4x5½-25.6	F	Pierce	T	T, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Universal	104
105	Brockway, S2	2,100	Continental, N.	4	3½x5-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	105
105a	Capitol, G1½	2,750	Wisconsin	4	3½x5-22.5	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	Y	M, Detlaff	I, 4	Cotta, AU	N	Thermoid	105a
106	Chicago, C1½	2,750	Hercules, CU2	4	3½x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	106
107	Clydesdale, 42C	2,750	Continental, N.	4	4x5½-25.6	S	Own	T	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	107
108	Collier, 19	.....	Continental	4	3½x5-22.5		Monarch	P			Zenith		M, Eisemann		M, Fuller	S, 3	Fuller			108
109	Comet, 1-T-2	1,950	Lycoming	4	3½x5-19.6	S	N	T	C, Standard	Y	Carter	G	B, Dyneto	Y	P, Borg & B	S, 3	Muncie, T25	Y	Arvac	109
110	Commerce, EP	2,255	Continental, N.	4	3½x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	110
111	Concord, A	2,350	Buda	4	3½x5½-22.5		Monarch	P	T, Bush		Zenith		M, Eisemann		M, Brown-L	S, 3	Brown-Lipe		Spicer	111
112	Corbitt, D	2,600	Continental, N.	4	3½x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	112
113	Dart, S	2,250	Buda, WU	4	3½x5½-22.5	F	Pierce	T	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	Y	Spicer	113
114	Day-Elder, B	2,300	Continental, N.	4	3½x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	114
115	Dearborn, F	2,180	Continental, N.	4	3½x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	115
116	Defiance, D	.....	Own	4	3½x5-22.5		N	P	C, Perfex		Stromberg			Y	P, Borg & B	S, 3	Grant-Lees			116
117	Dependable, C	2,150	Buda, CTU	4	3½x5½-22.5	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 3	Fuller, LTU	N	Acme	117
118	Diamond T, T	2,800	Dia. T Design	4	3½x5½-22.5	F	Unit Mot	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 3	Covert	N	Sn'd & Sp	118
118a	Douglas, G	1,975	Weidely	4	3½x5½-22.5	F		P	T, Own		Schebler		M, Eisemann		P, Borg & B	S, 3	Grant-Lees		Arvac	118a
119	Duplex, A	2,775	Hinkley, HAA	4	4x5½-25.6	FS	N	P	T, Modine	N	Stromberg	G	B	Y	M, Covert	S, 3	Covert, MUC	Y	Peters	119
120	Erie	.....		4	4½x5½-27.2		Pierce	T			Stromberg		M, Bosch		M	4				120
121	Fageol	.....	Lycoming, K	4	3½x5-19.6	S	N	P	C, Modine	N	Zenith	DG	M, Dixie	N	P, Borg & B	S, 5	Own	Y	Detroit	121
122	Federal, TE	2,825	Continental, C4.	4	4½x5½-27.2	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit	N	Spicer	122
123	Forschler, AX	2,375	Continental	4	3½x5-19.6		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 3	Fuller		Own	123
124	Gary, GT	2,550	Buda, TU	4	4x5½-25.6	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Blood	124
125	Giant, 15	2,425	Continental, N.	4	3½x5-22.5	FS	N	T	C, Ideal	N	Schebler	G,K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	125
126	GMC, 31A	.....		4	3½x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	126
127	Graham Brothers	2,495	Continental, N.	4	3½x5-22.5	FS	Monarch	T	T, Long	N	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller	N	Hartford	127
128	Gramm-B'nst'n, 15 (int.)	2,250	Continental, N.	4	3½x5-22.5	FS	N	T	T, Own	N	Stromberg	G	B, Northeast.	N	M, Fuller	S, 3	Fuller	N	Own	128
129	Gramm-B'nst'n,65(w'm)	2,775	Continental, N.	4	3½x5-22.5	FS	N	T	T, Own	Y	Stromberg	G	B, Northeast.	N	M, Fuller	I, 3	Own	N	Own	129
131	Grant, 17	.....	Continental, N.	4	3½x5-22.5	FS	Pierce	T	C, Fedders	N		G	M, Splitdorf	Y	M, Brown-L	S, 4	Brown-L, 35	N		131
132	Harvey, WEA	2,550	Buda	4	4½x5½-27.2		Monarch	P	T, Chicago		Zenith		M, Bosch		M, Fuller	S, 3	Fuller		Arvac	132
133	Hawkeye, K	2,150	Buda	4	3½x5½-22.5		Simplex	P	T, Ideal		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Hartford	133
134	Huffman, C (int.)	1,695	Continental	4	3½x5-22.5	F		T	C		Zenith		M, Dixie		M, Fuller	S, 3	Fuller			134
135	Huffman, B (worm)	1,895	Continental	4	3½x5-22.5	F		T	C		Zenith		B, Northeast.		M, Fuller	S, 3	Fuller			135
136	Hurlburt, A	2,850	Buda, IU	4	4x5½-25.6	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe			136
137	Independent (Iowa)	1,890	Continental, N.	4	3½x5-22.5	FS			T, Chicago		Stromberg		M, Bosch		M, Fuller	S, 3	Fuller			137
139	International, K	2,400	Own	4	3½x5½-19.6	FS	Own	P	T, Long,McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	139
140	Jumbo, 15	.....	Buda, CTU	4	3½x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast.	Y	M, Fuller	S, 3	Fuller, LTU-S	Y	Arvac	140
141	Kalamazoo, G	.....	Continental, J4	4	3½x5-22.5	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	141
142	Kearns, N	2,000	Hers'l-Spill. 7000	4	3½x5-19.6	FS	Pierce	T	B, Bush	N	Zenith	G	M, Berling	N	P, Borg & B	S, 3	Grant-Lees, 515	Y	Peters	142

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TRUCK SPECIFICATIONS

2,000 (National)—3,000 (Kearns)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Frame material (Pressed-steel, Rolled-steel) and make.	Leaves in front and rear springs.	Make of springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
72	W, Timken, 6352..	Y	W	2, R	10½, 10½	E, E	P	½, ½	Coghlin	8, 10	40x2½-52x2½	L	Ross	34, 0	W, Hayes	136	34x3½-34x3½	3,350	.....	72
73	W, Sheldon	....	.....	2, R	.....	E, E	P, Slick-Knox	½, ½	SpringPerch	.....	.....	L	Lavine	.....	W, Bimel	144	36x3½-36x4	3,920	.....	73
74	W, Timken, 6460..	Y	S	2, R	10 , 10	E, E	P, Garden City	C, C	Tuthill	8, 10	38x2½-50x2½	L	Gemmer	.....	W, Standard	136	36x3½-36x4	3,400	—, 70	74
75	I, Torbensen	....	.....	2, R	.....	....	P, Parish & B	....	Champion	.....	.....	....	Ross	.....	W	132	34x3½x34x4	.....	.....	75
76	W, Sheldon, W1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 13	38x2-50x2½	L	Lavine	.....	W, Schwars	125	32x3½-32x4	2,750	75, 75	76
77	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Detroit	½, ½	Mather	7, 11	39x2½-52½x2½	L	Jacox	.....	W	124	34x3-34x4	2,925	.....	77
78	W, Timken	....	.....	2, R	.....	E, E	R, Own	....	Merrill	.....	.....	....	Ross	.....	W	128	34x4-34x5	.....	.....	78
79	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage	½, ½	Garden City	7, 10	36x2½-52x2½	L	Ross	48, 0	W, Standard	120	34x3½-34x5	3,300	20, 70	79
80	W, Timken, 6456..	Y	B	2, R	9½, 9	E, E	P	½, ½	Mather	8, 9	40x2½-50x2½	L	Ross	42, 0	W, Bimel	137	34x3½-34x5	3,470	—, 70	80
81	W, Timken, 6460..	N	B	2, R	11 , 11	E, E	P, Savage	½, ½	Detroit	10, 11	44x2½-56x3	L	Ross	53, 0	W, Hayes	144	34x3½-36x5	4,395	—, 70	81
82	W, Sheldon	....	W	2, R	10 , 11	....	P, Parish & B	....	Mather	.....	38x2½-51x2½	L	Ross	.....	W, Royer	130	35x3p-35x5	.....	.....	82
83	W, Timken, 6352..	Y	B	2, R	10 , 11½	E, E	P, Parish	½, ½	Perfection	.....	39½x2½-53½x2½	L	Ross	.....	W	134	34x3½-34x4	3,220	58, 71	83
84	I, Clark, 1D	Y	B	2, R	10 , 10	C, C	P	½, ½	Detroit	8, 11	38½x2-50x2½	L	Ross	45, 0	W, Wayne	130	34x3½-34x4	2,820	53, 70	84
85	I, Torbensen, A...	Y	B	2, R	11 , 11½	C, E	P	½, ½	Tuthill	8, 11	37½x2-44x2½	L	C.A.S	36, 0	W, Schwars	124	34x4½p-34x5p	2,950	75, —	85
86	I, Clark, 1D	Y	B	2, R	10½, 11½	C, E	P, Detroit	½, ½	Detroit	8, 10	39x2½-52½x2½	L	Jacox	.....	W	130	35x5p-36x6p	3,100	50, 70	86
87	W, Sheldon, W1501	Y	W	2, R	.....	E, E	P, Savage	½, ½	.....	.....	36x2½-48x2½	L	Ross	.....	W, Schwars	132	34x3½-34x5	3,500	.....	87
88	W, Sheldon, W1501	Y	W	2, R	12½, 11	E, E	P	½, ½	Sheldon	9, 12	40x2½-54x2½	L	Jacox	35, 0	W, Hoopes	125	35x5p-35x5p	3,350	40, 70	88
88a	W Timken, 6352..	Y	W	2, R	11½, 11½	E, E	P, Parish & B	½, ½	Sheldon	8, 10	38x2-52x2½	L	Lavine	44, 0	W, Bimel	124	35x5p-35x5p	3,150	.....	88a
88b	W, Sheldon	Y	W	2, R	10½, 10½	E, E	P, Own	½, ½	Detroit	.....	40x2½-50x3	R	Ross	.....	W	144	36x3-36x4	3,650	.....	88b
89	W, Wis., 800D	Y	B	2, R	.....	E, E	P	½, ½	Sheldon	9, 11	36x2½-50x2½	L	Gemmer	.....	I, Smith	130	35x5p-35x5p	3,800	25, 75	89
90	W, Timken	....	.....	2, R	.....	E, E	P, Parish	½, ½	Delaney	.....	.....	L	Ross	.....	W, Archibald	120	36x3½-36x4	.....	.....	90
91	W	Y	B	2, R	.....	E, E	P	½, ½	.....	8, 8	42x2½-50x2½	L	Ross	50, 0	W	135	36x3½-36x4	3,900	.....	91
92	W, Timken	....	.....	2, R	.....	....	P, Parish	....	Delaney	.....	.....	....	Lavine	.....	.....	135	36x3½-36x5	.....	.....	92
93	W, Sheldon, W1501	N	B	2, R	10, 8½	E, E	R, Illinois	½, ½	Sheldon	8, 9	38x2-50x2½	L	Wohlrab	44, 0	W, Bimel	134	34x3½-34x5	4,100	55, 65	93
94	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Parish & B	½, ½	Mather	8, 13	38x2½-54x2½	L	Own	.....	W, Wayne	131	34x3-34x5	3,300	.....	94
95	W, Timken, 6453..	Y	W	2, R	10, 10	E, E	R, Own	½, ½	Standard	9, 11	40x2½-50x3	L	Lavine	43, 0	W, Standard	135	36x3½-36x4	3,450	40, 66	95
95a	W	Y	B	2, R	.....	E, E	P, Detroit	½, ½	Mather	8, 10	40x2½-54x3	L	Ross	.....	W	135	36x3½-36x5	4,350	60, 85	95a
97	W, Timken, 6460..	Y	W	2, R	11 , 11	E, E	P, Savage	½, ½	Detroit	8, 12	40x2½-50x2½	L	Ross	.....	W, Bimel	142	36x3½-36x6	3,800	—, 74	97
98	W, Timken, 6460..	Y	W	2, R	10 , 11	E, E	P, Parish & B	½, ½	Mather	9, 9	39½x2½-53½x3	L	Ross	.....	W, Schwars	144	36x6p-38x7p	4,750	50, 80	98
99	W, Timken, 6460..	Y	B	2, R	9 , 9½	E, E	P	½, ½	Detroit	8, 12	38x2½-52x2½	L	Ross	54, 0	W, Bimel	141	34x3½-34x5	3,700	50, 70	99
99a	W, Sheldon, W103	N	.....	2, R	.....	E, E	R	½, ½	Sheldon	9, 13	38x2½-52x3	L	Ross	.....	W	144	36x3½-36x5	.....	50, 70	99a
99b	I, Torbensen	....	W, Powrlok	2, R	.....	E, E	P	½, ½	.....	10, 12	40x2½-54x3	....	.....	.....	W	144	34x4-34x5	.....	.....	99b
100	I, Torbensen	Y	W, Powrlok	2, R	10½, 11½	C, E	R	½, ½	Detroit	8, 12	36x2-52½x2½	L	Lavine	.....	W, Bimel	130	32x3½-32x4	3,070	—, 66	100
100a	W, Wisconsin	N	B	2, R	9½, 9½	E, E	R, Own	½, ½	Tuthill	8, 10	40x2½-50x3	L	Ross	42, 0	W, St. Mary's	152	36x3½-36x5	4,000	55, 75	100a
101	I, Clark, 1B	N	B	2, R	14 , 13	C, E	P, Parish & B	½, ½	Higgins	7, 12	40x2½-52x2½	L	Lavine	48, 0	W, Bimel	132	35x5-35x5	2,800	30, 75	101
102	I, Russel	Y	B	2, R	12 , 13	C, E	R, Own	½, ½	Detroit	7, 12	40x2-54x2½	L	Gemmer	52, 0	W, Bimel	132	32x3½x32x4	3,500	50, 70	102
103	I, Torbensen, C...	N	B	2, R	11 , 12	C, E	P	½, ½	Perfection	8, 11	39x2½-56x3	L	Ross	54, 0	W, Schwars	144	36x3½-36x5	3,600	53, 65	103
104	I, Russel, PL300	Y	B	2, R	10½, 11½	C, E	P, Detroit	½, ½	Mather	9, 10	40x2½-52½x3	L	Lavine	48, 0	W, Wayne	135	34x3½-34x5	3,520	—, 90	104
105	W, Sheldon, W1501	N	B	2, R	.....	E, E	P, Parish & B	½, ½	Sheldon	7, 10	39x2½-48x3	L	Gemmer	.....	W, Hoopes	140	36x3½-36x5	3,550	52, 74	105
105a	W, Wisc., 800F	Y	B	2, R	12½, 11	E½, E	R	½, ½	SpringPerch	.....	41½x2½-54x2½	L	Ross	51, 0	W, Ames	144	35x5p-38x7p	4,600	55, 85	105a
106	W, Timken, 6460..	Y	B	2, R	10½, 11	E, E	R	½, ½	Mather	8, 11	40x2½-54x3	L	Gemmer	.....	W, Standard	144	36x3½-36x5	3,900	60, 75	106
107	W, Timken, 6460..	N	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Perfection	9, 9	36x2½-52x3	L	Ross	.....	W, Bimel	146	36x3½-36x6	3,750	51, 78	107
108	W	....	.....	2, R	.....	E, E	.....	½, ½	.....	.....	.....	....	Ross	.....	.....	144	36x4-36x6	.....	.....	108
109	B, Standard, C	Y	B	2, R	10 , 12	C, E	P	½, ½	Marathon	7, 12	36½x2-50½x3	L	Gemmer	56, 0	W, Moline	130	33x4p-33x4	3,240	60, 70	109
110	I, Torbensen, A...	Y	B	2, R	11, 12½	C, E	P, Detroit	½, ½	Detroit	8, 11	36x2½-50x3	L	Jacox	50, 0	W, Bimel	134	36x6p-36x6p	3,200	—, 90	110
111	W, Timken	....	.....	2, R	.....	E, E	P, Parish & B	½, ½	Spring Perch	.....	.....	L	Ross	.....	W, Crane	140	36x3½-36x5	.....	.....	111
112	W, Sheldon	Y	W	2, R	.....	E, E	R, Own	½, ½	Mather	9, 11	38x2½-50x2½	L	Ross	.....	W, Bimel	136	36x3½-36x5	.....	.....	112
113	W, Own	Y	B	2, R	10½, 10½	F, F	P, Savage	½, ½	Perfection	7, 11	37x2-54x2½	L	Ross	44, 0	W, Prudden	140	34x3½-34x6	3,300	50, 80	113
114	W, Sheldon, W1501	Y	B	2, R	10, 10	E, E	P, Savage	½, ½	Iron City	9, 13	40x2½-54x2½	L	Gemmer	51, 9	W, Jones	144	34x3½-34x5	3,500	50, 70	114
115	W, Chicago, C	Y	B	2, R	10, 12	E, E	P, Own	½, ½	Maremont	7, 9	35x2½-52x2½	L	Lavine	42, 0	W, Crane	126	34x4-34x5	3,280	50, 75	115
116	I, Torbensen	....	.....	2, R	.....	E, E	P, Detroit	½, ½	Detroit	.....	.....	L	.....	.....	W, Crane	140	35x5-36x6	.....	.....	116
117	W, Wisc., 800H	Y	W	2, R	10, 10	E, E	P	½, ½	Perfection	9, 11	40x2½-48x2½	L	Ross	54, 0	W, Bimel	128	34x5-34x5	4,120	40, 70	117
118	W, Wisc., 800H	Y	W	2, R	.....	E, E	P, Smith	½, ½	Mather	8, 10	40x2½-53x2½	L	Gemmer	.....	W	144	36x3½-36x5	4,000	50, 90	118
118a	I, Torbensen	....	.....	....	.....	....	.....	....	Own	.....	.....	....	Ross	.....	.....	127	34x3½-34x5	3,725	.....	118a
119	W, Sheldon	Y	B	2, R	11, 11½	E, E	P, Parish & B	½, ½	Penn	9, 9	39x2½-50x2½	L	Ross	.....	W, Prudden	145	35x5p-38x7p	.....	.....	119
120	W, Timken	....	.....	2, R	.....	....	P	....	.....	.....	.....	....	Ross	.....	.....	144	34x3½-36x5	.....	.....	120
121	W, Standard, 603	Y	B	2, R	10½, 10	E, E	R, Own	½, ½	Mather	8, 11	41x2½-56x3	L	Ross	.....	W, Prudden	136	34x3½-34x6	3,500	50, 70	121
122	W, Timken, 6560..	N	B	2, R	12½, 9	E, E	P	½, ½	Mather	9, 9	40x2½-54x3	L	Gemmer	46, 3	W, Auto	144	36x3½-36x5	4,250	56, 69	122
123	W, Sheldon	....	.....	2, R	.....	E, E	R, Own	½, ½	Own	.....	.....	....	Ross	.....	I, Smith	120	36x3½-36x5	.....	.....	123
124	W, Timken, 6460..	Y	W	2, R	12, 10½	E, E	P, Own	½, ½	Tuthill	9, 12	44x2½-52x3	L	Ross	42, 0	W, Prudden	142	36x3½-36x5	3,800	50, 20	124
125	W, Sheldon, W-1500	Y	B	2, R	13, 9½	E, E	P, Hydraulic	½, ½	Mather	6, 11	38x2-48x2½	R	Jacox	.....	W, Wayne	138	34x3½-34x5	3,600	55, 75	125
126	W, Timken, 6460..	N	B	2, R	10½, 9½	E, E	P, Smith	½, ½	Detroit	8, 10	36x2½-54x3	L	Jacox	51, 0	W	130	36x3½-36x5	4,205	55, 74	126
127	I, Torbensen	Y	B	2, R	11, 12½	C, C	P, Detroit	½, ½	Detroit	9, 12	42x2½-52x3	L	Lavine	48, 0	S, Disteel	133	35x5p-36x6p	3,400	..,80	127
128	I, Clark	Y	B	2, R	11, 11	C, E	P, Own	½, ½	Perfection	10, 11	40x2½-52x2½	L	Ross	51, 0	W, Bimel	138	36x3½-36x5	3,800	69, 90½	128
129	W, Standard	Y	B	2, R	11,	E, E	P, Own	½, ½	Perfection	10, 11	40x2½-52x2½	L	Ross	51, 0	W, Bimel	138	36x3½-36x5	4,200	69, 90½	129
131	I, Torbensen, A...	Y	B	2, R	10, 10½	C, E	P	½, ½	Perfection	11, 12	42x2½-50x2½	L	Jacox	45, 0	W, Royer	140	35x5p-38x7p	3,450	47½, 67	131
132	W, Sheldon	....	.....	....	.....	E, E	P, Own	....	Sheldon	.....	.....	L	Ross	.....	W, Schwars	128	34x3½-34x5	.....	.....	132
133	I, Clark	....	.....	2, R	.....	C, E	R, Own	½, ½	Detroit	.....	.....	L	Ross	.....	W, Bimel	148½	34x3½-34x5	.....	.....	133
134	I, Torbensen	....	.....	2, R	.....	E, C	P	½, ½	Perfection	.....	.....	....	Lavine	.....	W	140	34x3½-34x5	.....	.....	134
135	W	....	.....	2, R	.....	E, E	P	½, ½	Perfection	.....	.....	....	Lavine	.....	W	140	34x3½-34x5	.....	.....	135
136	W, Hindley	....	.....	2, R	.....	E, C	P, Savage	½, ½	Perfection	.....	.....	....	Ross	.....	W, Wayne	148	34x4-34x5	.....	.....	136
137	I, Torbensen	....	.....	2, R	.....	C, E	P	½, ½	.....	.....	.....	....	Lavine	.....	W	135	34x3½-34x5	.....	.....	137
139	I, Own	....	B	2, R	10½, 11½	E, E	P	½, ½	.....	10, 14	41½x2½-56x3	L	Own	.....	W	128	36x3½-36x5	3,400	50, 67	139
140	I, Clark, 1D	Y	B	2, R	11, 13½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	36x3½-36x5	3,600	50, 75	140
141	W, Wisc., 800F	N	W	2, R	9, 9½	E, E	R	½, ½	Sheldon	6, 11	40x2½-50x2½	L	Ross	51, 8	W, Bimel	144	36x4-36x5	5,080	—, 80	141
142	I, Torbensen, B...	Y	S	2, R	14, 11	E, E	P	½, ½	Mather	6, 9	42x2½-52x3	L	Lavine	.....	W, F & O	136	34x3½-34x6	3,620	68, 80	142

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3,000 (Kelly-Springfield)—4,000 (Collier) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	3,000 Pounds—Con.																			
143	Kelly-Sp'gf'd,K31.(ch'n)	3,000	Own	4	3½x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Own	143
144	Kelly-Sp'gf'd,K32.(w'm)	3,000	Own	4	3½x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Own	144
145	Kissel, General Utility	2,775	Own	4	3½x5½-24.0	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	145
146	Kleiber, A	3,100	Continental, C4	4	4½x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	D G	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	146
147	K-Z	2,450	Continental, J4	4	3½x5-22.5	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Thermoid	147
148	Larrabee, N		Continental, N	4	3½x5-22.5	S	Simplex	T	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Universal	148
149	Maccar, L	2,925	Continental, C4	4	4½x5½-27.2	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	149
150	Mack, AB(chain)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	150
151	Mack, AB(worm)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	151
152	Mapleleaf, AA		Hinkley,HAA400	4	4x5½-25.6	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LTU5	N	Blood	152
154	Master, JW	2,690	Buda, OU	4	4½x5½-27.2	S	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Spicer	154
155	Maxwell	1,472	Own	4	3½x4½-21.3	S		T	T, Own	N	Eagle	G	B	N	C, Own	S, 3	Own	N	Thermoid	155
156	Menominee, H		Continental, C4	4	3½x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU2	N	Spicer	156
157	Moreland, 19B	2,930	Continental	4	4½x5½-27.2	F S	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	157
158	Myers, 80	1,875	Lycoming	4	3½x5-19.6	F S	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees	N	Universal	158
159	Napoleon, 11		Victory	4	3½x5-19.6	F	N	T	C, Chicago	Y	Stromberg	G	B	N	M, Fuller	S, 3	Fuller, TU½	N	Universal	159
160	National, GA		Waukesha, BUX	4	3½x5½-22.5	S	Waukesha	P	C, McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	160
161	Nelson & LeMoon, F1½		Continental, C4	4	4½x5½-27.2	F S	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-L, 35		Thermoid	161
162	Noble, B30		Buda	4		F S	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU			162
163	Norwalk	1,750	Lycoming, K	4	3½x5-19.6	F S	N		T, Chicago		Carter		B		P, Borg & B	S, 3	Grant-Lees, 515			163
164	O. K., K	2,450	Buda, ITU	4	4½x5-32.4	F S	Pierce	T	T, R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, TU3		Hartford	164
165	Old Hickory, N	995	Lycoming, K	4	3½x5-19.6			T	C, Standard		Carter		M, Connectic		C, Lycoming	S, 3	Grant-Lees			165
166	Old Reliable, A	2,350	Wisconsin, EU	4	4x5-25.6	F	N	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	166
166a	Orleans			4	4x5½-25.6	F		P	T	N	Master	G	M, Eisemann	N	M	I, 3	Cotta			166a
167	Packard, 1½E	3,200	Own	4	4x5½-25.6	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Spicer-Th	167
168	Paige, 52-19		Hink'y,HAA400	4	4x5½-25.6	F	Hinkley	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	168
169	Patriot, Lincoln	2,450	Hinkley,HAA400	4	4x5½-25.6	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Fuller, G5	N	Thermoid	169
170	Rainier, R6	2,150	Continental, N	4	3½x5-19.6	F S	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	170
171	Reliance, A10	2,500	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU3	N	Peters	171
172	Republic, 11X		Continental, N	4	3½x5-22.5	F S	Ruggles	P	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 3	Fuller, TU½	N	Hartford	172
173	Reynolds, 3A	3,250	Hinkley	4	4x5½-26.5	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert	N	Thermoid	173
173a	Rowe, CW	2,800	Wisconsin	4	3½x5-22.5	F	Simplex	P	—, Fedders		Zenith		M, Bosch			S, 4	Brown-L		Spicer	173a
174	Royal	2,800	Wisconsin	4	3½x5-22.5		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			174
175	Sandow, CG	2,590	Continental, N	4	3½x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	Spicer	175
176	Schwarts, B2	2,175	Continental, J4	4	3½x5-22.5	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	176
177	Selden, 1½A		Continental, N	4	3½x5-22.5	S	Pierce	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S,	Brown-L, 30	N	Spicer	177
178	Service, 31 (solids)	2,985	Buda, IU	4	4x5½-25.6	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	178
179	Service, 36 (pneumatics)	3,415	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	179
180	Signal, H	2,925	Continental, C4	4	4½x5½-27.2	F S	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	180
181	Southern, 15		Continental, N	4	3½x5-22.5	F S	Pierce	P	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	181
182	Sterling	2,850	Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	182
183	Stewart, 9	2,250	Continental, N	4	3½x5-22.5	F S	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	Hartford	183
184	Stoughton, B	2,350	Waukesha, BUX	4	3½x5-22.5	F	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Thermoid	184
185	Sullivan, F	2,975	Buda, M	4	3½x4½-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Bosch	N	C, Hartford	S, 3	Covert, GI	N	Hartford	185
186	Texan, TK	1,525	Lycoming	4	3½x5-19.6	S	N	T	C, Own		Carter		B		P, Borg & B	S, 3	Muncie			186
187	Tiffin, GW	2,415	Continental, C4	4	4½x5½-27.2	F S	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 3	Fuller, GU3	Y	Peters	187
188	Tower, J	3,000	Continental, C4	4	4½x5½-27.2	F S	N	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N		188
189	Transport, 30	2,250	Continental, N	4	3½x5-22.5	F S	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Hartford	189
190	Traylor, C	2,875	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N		190
191	Triangle, A	2,185	Waukesha, BU4	4	3½x5½-22.5	S	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	191
192	Ultimate, A		Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	192
193	United		Buda	4	3½x5½-22.5						Stromberg				M	S, 3	Brown-Lipe			193
194	Universal, G		Buda	4	3½x5-22.5		Monarch	P	T, Bremer		Zenith		M, Eisemann		P, Own	S, 3	Own			194
195	U. S., N*		Continental, N	4	3½x5-22.5			P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	195
196	Velie, 46	1,925	Continental, N	4	3½x5-22.5	F S	Monarch	P	T, Own	N	Stromberg	G	M, Berling	N	P, Borg & B	S, 3	Durston 034000	N	Arvac	196
197	Victor (Mich.), A		Continental, N	4	3½x5-22.5	F	N	T	Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	197
198	Watson, 20		Waukesha, BUX	4	3½x5½-22.5	S	Waukesha	P	T, R'me-T'r'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	198
199	White Hickory, H	2,750	Continental, N	4	3½x5-22.5	F S	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	Arvac	199
200	Wichita, L	2,600	Waukesha, BX	4	3½x5-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	200
201	Wilcox, B		Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		201
202	Wilson	2,450	Continental, N	4	3½x5-22.5	F S	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35		Thermoid	202
203	Winther, 39 (rear drive)	2,450	Wisconsin, CAU	4	3½x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	Arvac	203
204	Winther, 430 (4-wh'l-dr)	2,850	Wisconsin, CAU	4	3½x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Peters	204
205	Wisconsin, B	1,750	Waukesha	4	3½x5½-19.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			205
206	Witt-Will, N Special	2,150	Continental	4	3½x5-22.5		Pierce	P	C, Bremer		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	206
207	Wolverine, C		Continental	4	3½x5-22.5		Monarch	T	T, Long		Stromberg		M, Eisemann	Y	M, Fuller	S, 3	Fuller		Universal	207
	3,500 Pounds:																			
208	Air-O-Flex, C		Buda, CTU	4	3½x5½-22.5	P	Duplex	F	T, Spirex	N	Stromberg	G	M, Splitdorf	Y	P, Borg & B	S, 4	Brown-L, 35	N	Thermoid	208
209	Oneida, B9	2,915		4	4x5-25.6	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3		N	Spicer	209
	4,000 Pounds:																			
210	Acme, A	3,050	Continental, C4	4	4½x5½-27.2	F S	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, RU	N	Blood	210
211	Atco, W20	2,875	Buda, HU	4	4½x5½-28.9	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Hartford	211
212	Autocar, 21UF	2,300	Own	2	4½x4-18.0	S	N	P	T, Own	N	Stromberg	G	M, Bosch	N	P, Own	S, 3	Own	N	Spicer	212
214	Beck, C	2,350	Continental	4	4½x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU3	Y	Blood	214
215	Belmont, C	2,550	Buda, HU	4	4½x5½-28.9	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Sterling	215
216	Brinton, F	3,000	Continental, C4	4	4½x5½-27.2	F S	Pierce	P	T, Mayo	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50		Spicer	216
217	Collier, 20		Continental	4	4½x5½-27.2		Monarch	P			Zenith		M, Eisemann		M, Fuller	S, 4	Fuller			217

* Model NW this load rating fitted with pneumatics.

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TRUCK SPECIFICATIONS

3,000 (Kelly-Springfield)—4,000 (Collier)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
143	C, Own	N	B	2, R	11¾, 10½	E, E	P	½, ½		10,11	40½x2½-43½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,590	50, 90	143
144	W, Own	N	B	2, R	11¾, 10⅝	E, E	P	½, ½		10 12	40½x2½-47½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4.685	50, 90	144
145	W,Sheldon,W-1500	Y	W	2, R	12⅝, 11	E, E	P, Smith	½, ½	Mather	10,11	38x2½-50x2½	L	Jacox	50, 0	W, Prudden.	152	36x3½-36x5	4,000	51½, 69	145
146	W, Sheldon, W-103	Y	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W,Waterh'se	143	36x3½-36x6	4,900	50, 75	146
147	W, Timken, 6460	N	B	2, R	12½, 10¾	E, E	R, Own	½, ½	Tuthill	7, 9	40x2½-50x3	L	Lavine	30, 2	W, St. M'ry	134	36x3½-36x5	4,000		147
148	W,Sheldon,W-1500	Y	B	2, R	10½, 9¾	E, E	P, Savage	½, ½	Merrill	7, 9	38x2½-53x2½	L	Ross		W, Hoopes.	130	34x3½-34x5	3,600	36, 88	148
149	W, Timken, 6460	N	B	2, R	10⅜, 10¾	E, E	P, Parish	½, ½	Merrill	7, 12	42x2½-54x2½	L	Ross		S, Dayton	150	36x4-36x6	4,300	—, 70	149
150	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½ ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwarz.	Opt.	36x4-36x3½d	4,800	46, 67	150
151	W. Timken	Y	W	2, R	13½, 9½	E E	P, Own	½, ½	Merrill	**8, 9**	40x2½-48x3	L	Own	50, 0	W, Schwarz.	Opt.	36x4-36x3½d	4,900	47, 69	151
152	W,Sheldon,W-103	Y	B	2, R	9, 9½	E, E	R, Own	½, ½	Sheldon		42x2½-50x3	L	Ross		W, Hayes	144	34x4-36x6	4,600	50, 70	152
154	W, Timken, 6460	Y	B	2, R	9¾, 9¼	E, E	P, Parish & B	½, ½	Detroit	8, 10	44x2-52x2½	L	Ross	42, 0	W, Prudden.	142	34x3½-34x5	3,900	55, 78	154
155	W, Own	Y	W	2, R	13, 11	E, E	P	½, ½	Detroit	7, 12	38x2½-52x2½	L	Own	52, 2	W, Kelsey	124	32x3-32x4	2,550	50, 70	155
156	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	144	36x3½-36x5	4,000		156
157	W, Timken, 6456	N	W	2, R	10½, 8¾	E, E	P	½, ½	U. S	6, 10	38x2½-48x3	L	Ross	50, 0	I, Smith	126	36x3½-36x5	4,150	50, 65	157
158	W ,Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	8, 9	36x2-50x3	L	C.A.S		W, E & O	144	34x3½-34x5	3,200	50, 75	158
159	I, Clark, 1D	N	B	2, R	14, 13	C, C	R, Own	½, ½	SpringPerch	9, 12	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-36x5p	3,400	50, 65	159
160	W, Timken, 6460	Y	W	2, R	10½, 9¾	E, E	P	½, ½	Coghlin	7, 10	40x2½-52x3	L	Ross	48, 0	W, Hayes	140	34x4-34x5			160
161	W Timken, 6552	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden.		36x3½-36x6			161
162	W,Sheldon,W-103			2, R		E, E	P, Slick-Knox	½, ½	Tuthill				Lavine		W, Bimel	144	36x3½-36x5	4,680		162
163	W, Chicago, C			2, R		E, E	P, Own	½, ½	Standard				Lavine		W, E & O	130	34x3½-34x5			163
164	W, Wisconsin			2, R		E, E	P, Savage	½, ½	Tuthill				Ross		W, Bimel	146	36x3½-36x5			164
165	B, Salisbury			2, R		C, E	R, Detroit		Tuthill				Lavine		W, Bimel	112	33x4-33x4			165
166	W, Sheldon, W21	Y	W	2, R	11, 9¾	E, E	P	½, ½	Sheldon	9, 13	39x2½-54x3	R	Ross		W, Prudden.	138	34x4-36x6	4,150	—, 90	166
166a	W	N		2, R		E, E	R	½, ½			40x2½-52x3		Ross		I, Smith	142	36x3½-36x5			166a
167	W, Own	N	S	2, R	9⅝, 9¾	C, E	R, Own	½, ½		10, 11	41x2½-46x2½	L	Own	50, 0	W	144	34x3½-34x3½d	4,670	46, 67	167
168	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	9, 10	42x2½-52x3	L	Ross		I	140	34x3½-34x5	4,000	60, 75	168
169	W, Empire, N	Y	B	2, R	11, 11¼	E, E	P, Detroit	½, ½	Cooper	8, 13	40x2½-52x2½	L	Ross	46, 6	W, Bimel	140	34x3½-34x5	3,900	45, 75	169
170	W,Sheldon,W-1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 14	38x2-50x2½	L	Lavine		W, Schwarz.	133	34x3-34x4	3,000	75, 75	170
171	E, Own	Y	W, Powrlok	2, R	10, 11½	E, E	P, Savage	½, ½	Sheldon	8, 11	36x2½-56x2½	L	Ross		W, Bimel	150	36x3½-36x5	4,500	35, 85	171
172	I, Torbensen, C2	Y	W, Powrlok	2, R		E, E	P, Detroit	½, ½	Mather	8, 15	39x2½-52½x2½	L	Jacox		W	144	34x4-34x6	3,300		172
173	W, Sheldon	Y	B	2, R	13½, 10¾	E, E	R, Standard	½, ½	Perfection		40x2½-54x2½	L	Lavine		I, Smith	140	36x3½-36x6			173
173a	W, Sheldon			2, R		E, E		½, ½	Sheldon				Ross		W, Hoopes	133	36x6p-36x6p	3,800	—, 62	173a
174	W, Timken			2, R		E, E	R, Own		Merrill				Ross		W	128½	34x4-34x5			174
175	W,Sheldon, W1500	Y	W	2, R	9¼, 9	E, E	P, Savage	¾, ¾	Garden City	7, 12	36x2½-52x2½	L	Ross	54, 0	W, Standard	135	34x3½-34x5	3,900	20, 70	175
176	I, Torbensen, B	Y	B	2, R	10, 11¾	C, E	P, Parish	½, ½	Rowland	7, 13	38½x2½-54x3	L	Ross		W, Schwarz.	140	34x3½-34x5	3,600		176
177	W, Timken, 6460	Y	B	2, R	9¾, 9¾	E ,E	P, Parish & B	½, ½	Perfection	10, 10	40x2½-50x2½	R	Lavine	48, 0	W	137½	34x3½-34x5	3,560	56, 75	177
178	W, Timken, 6460	Y	B	2, R	11½, 9¾	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	36x3½-36x6	4,850	—, 65	178
179	W, Timken, 6460	Y	B	2, R	11½, 10¾	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	35x5p-38x7p	4,900	—, 65	179
180	W, Timken, 6460	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	10, 11	44x2½-56x3	L	Ross	53, 0	W, Hayes	144	34x4-36x6	4,760	—, 73	180
181	W, Sheldon	Y	W	2, R			P, Parish & B		Mather		38x2½-54x2¼	L	Ross		W, Royer	143	34x3½-34x5d			181
182	W, Timken, 6460	N	W	2, R	10¾, 10¾	E, E	P	½, ½	Mather	8, 10	48x3-54x3	L	Ross	57, 2	W, Prudden.	142	36x3½-36x5	4,720	47, 91	182
183	I, Clark, 1D	Y	B	2, R	10, 10	C, C	P,Hydraulic	½, ½	Detroit	8, 11	41x2½-54x3	L	Ross	49, 0	W, Wayne	140	34x3½-34x5	3,440	56, 70	183
184	W,Sheldon,W-1501	N	W	2, R	11⅜, 11	E, E	P, Smith	½, ½	Sheldon	9, 11	40x2½-50x2½	L	Lavine	51, 0	W, Bimel	140½	36x3½-36x5	3,800	49, 69	184
185	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	R, Own	½, ½	Merrill	9, 9	38x2-52x3	L	Ross	45, 0	W, Wayne	129	36x3-36x5	3,500	54, 68	185
186	W, Chicago			2, R		E, E	P, Parish & B	½, ½	Maremont				C.A.S		W	144	34x4p-34x5			186
187	W, Sheldon, W102	N	R	2, R	10, 12	E, E	P	½, ½	Kalamazoo	9, 11	40x2-48x2½	L	Ross	47,0	I, Smith	135	36x3½-36x5	3,650	40, 60	187
188	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		42x2½-52x2½	L	Ross		W, Royer	142	35x5p-38x7p	4,520	—, 75	188
189	I, Clark, 1D	Y	B	2, R	11¾, 12½	C, E	P, Detroit	½, ½	Detroit	7, 10	40x2½-54x3	L	Jacox		W	140	35x5p-38x7p	3,450	50, 70	189
190	W, Sheldon, W103	Y	W	2, R		E, E	P, Savage	½, ½			38x2½-50x2½	L	Ross		W, Schwarz.	138	36x4-36x6	4,700		190
191	I, Clark, 1D	Y	W, Powrlok	2, R	9¾, 10	C, C	R, Mason	½, ½	Detroit	9, 11	42½x2½-54x2½	L	Gemmer	47, 6	W, Royer	144	34x3½-34x6	3,750	60, 80	191
192	W, Sheldon, W103	Y	B	2, R	9¾, 10¼	E, E	P	½, ½	Sheldon	9, 13	39x2½-52x2½	L	Ross	47, 0	W	140	36x3-36x5	4,500	50, 70	192
193	I, Clark			2, R			P	½, ½				L			W	145	34x3½-34x5			193
194	W, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	133	34x3½-34x5			194
195	I, Clark, 1D	Y	B	2, R	11, 12¾	C, E	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwarz.	144	36x3½-36x5	3,800	47, 67	195
196	I, Torbensen, CT	Y	W, Powrlok	2, R	10½, 12	C, E	P, Dunbar	½, ½	Mather	8, 11	40x2½-54x3	L	Ross	46, 0	W, Bimel	133	36x3½-36x5	3,650	52½, 85	196
197	I, Clark	Y	B, W	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden.	140	-x4—x5	3,250	80, 80	197
198	W, Empire, N	Y	B	2, R	10, 10¾	E, E	P, Parish	½, ½	Sheldon		40x2½-52x3	L	Lavine		W,Crane	144	36x3½-36x5			198
199	W, Timken, 6460	Y	W	2, R	10, 10	E, E	P, Parish & B	½, ½	Sheldon	8, 10	41½x2½-50x3	L	Ross	51, 0	W, Bimel	144	36x3½-36x5	3.750	54, 76	199
200	W, Sheldon	Y	W	2, R	9½, 10¾	E, E	P, Own	½, ½	Detroit		40x2½-50x3	R	Ross		W	144	36x3½-36x5	4,100		200
201	W, Wisc., 800E	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 10	40x2½-52x3	L	Own		I, Smith	144	36x4-36x5	4,600	25, 75	201
202	W, Timken, 6460	Y	B	2, R	10½, 10½	E, E	R	½, ½	Perfection	8, 12	38x2½-52x2½	L	Ross		W	140	36x3½-36x5	3,800		202
203	I, Clark, 1D	Y	B	2, R	10, 11½	C, C	R, Own	½, ½	Harvey	9, 12	40x2½-48x2½	R	Lavine	56, 0	I, Own	140	34x3½-34x5	3,600	40, 75	203
204	I, Clark, 1D	Y	B	4, FR	11½, 10½	C, C	R	½, ½	Harvey	9, 12	40x2½-48x2½	L	Lavine	58, 0	I, Own	132	32x4-32x4	4,100	30, 60	204
205	W, Sheldon			2, R		E, E	P, Smith						Lavine		W	136	34x3½-34x4			205
206	W ,Timken			2, R		E, E	P, Parish	½, ½	Delaney			L	Ross		W,Arch'ld	120	36x3½-36x5			206
207	I, Russel			2, R		C, E	P, Parish & B	½, ½	Tuthill			L	Gemmer		W	140	34x3½-34x5			207
208	I, Russel, P1-300	N	B	2, R	15, 14	E, C	P					L	Ross		W	150	36x3½-36x5	4.000	40, 70	208
209	W	Y	B	2, R	10½, 10	E, E	P, Detroit	½, ½	Mather	9, 12	40x2½-56x3	L	Ross		W	144	36x3½-36x6	4,900	60, 85	209
210	W, Timken, 6560	Y	B	2, R	11¾, 9½	E, E	P	½, ½	Detroit	8, 12	40x2½-52x3	L	Ross	54, 0	W, Bimel	148	36x4-36x7	4,450	50, 70	210
211	W, Wisc., 800J	Y	B	2, R	12¼, 10¼	E, E	P, Parish & B	½, ½	Sheldon	9, 11	41x2½-52x3	L	Ross	61, 2	I, Smith	150	36x4-36x7	4.800	53, —	211
212	S, Own	Y	B	2, R		C, E	P	½, ½	T			R	Own		W	97		3.600		212
214	I, Clark, 2	N	S	2, R	14, 13	C, E	P, Parish & B	½, ½	Higgins	8,13	40x2½-52x3	L	Lavine	48, 0	W, Bimel	144	36x7-40x8	3,800	30, 75	214
215	I, Clark, 2	N	B	2, R	11, 11	C, E	R, Savage	½, ½	Mather	9, 12	40x2½-52½x3	L	Lavine	52, 0	S, Clark	154	36x4-36x7	4,000	50, 80	215
216	W, Timken, 6560	N	W	2, R	11½, 9½	E, E	R, Own	½, ½	Philadelphia	12, 14	44x2½-50x3	L	Ross	40, 0	W, Schwarz	150	36x4-36x6	4,500	45, 70	216
217	W			2, R		E, E	R						Ross			152	36x4-36x7			217

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3,000 (Kelly-Springfield)—4,000 (Collier) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	3,000 Pounds—Con.																			
143	Kelly-Sp'gf'd,K31.(ch'n)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Own	143
144	Kelly-Sp'gf'd,K32,(w'm)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Spicer	144
145	Kissel, General Utility	2,775	Own	4	3¾x5½-24.0	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	145
146	Kleiber, A	3,100	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	146
147	K-Z	2,450	Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Thermoid	147
148	Larrabee, N		Continental, N	4	3¾x5-22.5	S	Simplex	T	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Universal	148
149	Macear, L	2,925	Continental, C4	4	4¼x5½-27.2	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	149
150	Mack, AB(chain)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	150
151	Mack, AB(worm)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	151
152	Maplesaf, AA		Hinkley,HAA400	4	4x5½-25.6	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LTU5	N	Blood	152
154	Master, JW	2,690	Buda, OU	4	4¼x5½-27.2	S	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Spicer	154
155	Maxwell	1,472	Own	4	3¾x4½-21.3	S		T	T, Own	N	Eagle	G	B	N	C, Own	S, 3	Own	N	Thermoid	155
156	Menominee, H		Continental, C4	4	3¾x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU2	N	Spicer	156
157	Moreland, 19B	2,930	Continental	4	4¼x5½-27.2	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	157
158	Myers, 80	1,875	Lycoming	4	3¼x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees	N	Universal	158
159	Napoleon, 11		Victory	4	3¼x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	B	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	159
160	National, GA		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	160
161	Nelson & LaMoon, F1½		Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-L, 35		Thermoid	161
162	Noble, B30		Buda	4		FS	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU			162
163	Norwalk	1,750	Lycoming, K	4	3¼x5-19.6	FS	N		T, Chicago		Carter		B		P, Borg & B	S, 3	Grant-Lees, 515			163
164	O. K., K	2,450	Buda, ITU	4	4¼x5-32.4	FS	Pierce	T	T, R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, TU3		Hartford	164
165	Old Hickory, N	995	Lycoming, K	4	3¼x5-19.6			T	C, Standard		Carter		M, Connectic		C, Lycoming	S, 3	Grant-Lees			165
166	Old Reliable, A	2,350	Wisconsin, EU	4	4x5-25.6	F	N	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	166
166a	Orleans			4	4x5½-25.6	F		P	T	N	Master	G	M, Eisemann	N	M	I, 3	Cotta			166a
167	Packard, 1¼E	3,200	Own	4	4x5½-25.6	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Spicer-Th	167
168	Paige, 52-19		Hinkl'y,HAA400	4	4x5½-25.6	F	Hinkley	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	168
169	Patriot, Lincoln	2,450	Hinkley,HAA400	4	4x5½-25.6	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Fuller, G5	N	Thermoid	169
170	Rainier, R6	2,150	Continental, N	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	170
171	Reliance, A10	2,500	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU3	N	Peters	171
172	Republic, 11X		Continental, N	4	3¾x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 3	Fuller, TU¾	N	Hartford	172
173	Reynolds, 3A	3,250	Hinkley	4	4x5½-26.5	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert	N	Thermoid	173
173a	Rowe, CW	2,800	Wisconsin	4	3¾x5-22.5	F	Simplex	P	—, Fedders		Zenith		M, Bosch			S, 4	Brown-L		Spicer	173a
174	Royal	2,800	Wisconsin	4	3¾x5-22.5		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			174
175	Sandow, CG	2,590	Continental, N	4	3¾x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	175
176	Schwarts, B2	2,175	Continental, J4	4	3¾x5-22.5	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	176
177	Selden, 1¼A		Continental, N	4	3¾x5-22.5	S	Pierce	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S,	Brown-L, 30	N	Spicer	177
178	Service, 31 (solids)	2,985	Buda, IU	4	4x5½-25.6	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	178
179	Service, 36 (pneumatics)	3,415	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	179
180	Signal, H	2,925	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	180
181	Southern, 15		Continental, N	4	3¾x5-22.5	FS	Pierce	P	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	181
182	Sterling	2,850	Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	182
183	Stewart, 9	2,250	Continental, N	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	183
184	Stoughton, B	2,350	Waukesha, BUX	4	3¾x5-22.5	F	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Thermoid	184
185	Sullivan, F	2,975	Buda, M	4	3¾x4½-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Bosch	N	C, Hartford	S, 3	Covert, GI	N	Hartford	185
186	Texan, TK	1,525	Lycoming	4	3¼x5-19.6	S	N	T	C, Own		Carter		B		P, Borg & B	S, 3	Muncie			186
187	Tiffin, GW	2,415	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 3	Fuller, GU3	Y	Peters	187
188	Tower, J	3,000	Continental, C4	4	4¼x5½-27.2	FS	N	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N		188
189	Transport, 30	2,250	Continental, N	4	3¾x5-22.5	FS	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Hartford	189
190	Traylor, C	2,875	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N		190
191	Triangle, A	2,185	Waukesha, BU4	4	3¾x5½-22.5	S	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	191
192	Ultimate, A		Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	192
193	United		Buda	4	3¾x5½-22.5						Stromberg				M	S, 3	Brown-Lipe			193
194	Universal, G		Buda	4	3¾x5-22.5		Monarch	P	T, Bremer		Zenith		M, Eisemann		P, Own	S, 3	Own			194
195	U. S., N*		Continental, N	4	3¾x5-22.5			P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	195
196	Velie, 46	1,925	Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Stromberg	G	M, Berling	N	P, Borg & B	S, 3	Durston 034000	N	Arvac	196
197	Victor (Mich.), A		Continental, N	4	3¾x5-22.5	F	N	T	Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	197
198	Watson, 20		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	T, R'me-T'r'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	198
199	White Hickory, H	2,750	Continental, N	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	199
200	Wichita, L	2,600	Waukesha, BX	4	3¾x5-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	200
201	Wilcox, B		Own	4	4¼x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		201
202	Wilson	2,450	Continental, N	4	3¾x5-22.5	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35		Thermoid	202
203	Winther, 39 (rear drive)	2,450	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	203
204	Winther, 430 (4-wh'l-dr)	2,850	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Peters	204
205	Wisconsin, B	1,750	Waukesha	4	3¾x5½-19.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			205
206	Witt-Will, N Special	2,150	Continental	4	3¾x5-22.5		Pierce	P	C, Bremer		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	206
207	Wolverine, C		Continental	4	3¾x5-22.5		Monarch	T	T, Long		Stromberg		M, Eisemann	Y	M, Fuller	S, 3	Fuller		Universal	207
	3,500 Pounds:																			
208	Air-O-Flex, C		Buda, CTU	4	3¾x5½-22.5	P	Duplex	F	T, Spirex	N	Stromberg	G	M, Splitdorf	Y	P, Borg & B	S, 4	Brown-L, 35	N	Thermoid	208
209	Oneida, B9	2,915		4	4x5-25.6	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3		N	Spicer	209
	4,000 Pounds:																			
210	Acme, A	3,050	Continental, C4	4	4¼x5½-27.2	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, RU	N	Blood	210
211	Atco, W20	2,875	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Hartford	211
212	Autocar, 21UF	2,300	Own	2	4¼x4½-18.0	S	N	P	T, Own	N	Stromberg	G	M, Bosch	N	P, Own	S, 3	Own	N	Spicer	212
214	Beck, C	2,350	Continental	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU3	Y	Blood	214
215	Belmont, C	2,550	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Sterling	215
216	Brinton, F	3,000	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Mayo	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50		Spicer	216
217	Collier, 20		Continental	4	4¼x5½-27.2		Monarch	P			Zenith		M, Eisemann		M, Fuller	S, 4	Fuller			217

* Model NW this load rating fitted with pneumatics.

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TRUCK SPECIFICATIONS

3,000 (Kelly-Springfield)—4,000 (Collier)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
143	C, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10,11	40½x2½-43½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,590	50, 90	143
144	W, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10 12	40½x2½-47½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,685	50, 90	144
145	W, Sheldon, W-1500	Y	W	2, R	12⅝, 11	E, E	P, Smith	½, ½	Mather	10,11	38x2½-50x2½	L	Jacox	50, 0	W, Prudden	152	36x3½-36x5	4,000	51½, 69	145
146	W, Sheldon, W-103	Y	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W, Watern'se	143	36x3½-36x6	4,900	50, 75	146
147	W, Timken, 6460	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	7, 9	40x2½-50x3	L	Lavine	30, 2	W, St. M'ry	134	36x3½-36x5	4,000		147
148	W, Sheldon, W-1500	Y	B	2, R	10½, 9½	E, E	P, Savage	½, ½	Merrill	7, 9	38x2½-53x2½	L	Ross		W, Hoopes	130	34x3½-34x5	3,600	36, 88	148
149	W, Timken, 6460	N	B	2, R	10½, 10½	E, E	P, Parish	½, ½	Merrill	7, 12	42x2½-54x2½	L	Ross		S, Dayton	150	36x4-36x6	4,300	—, 70	149
150	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x3½d	4,800	46, 67	150
151	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x3½d	4,900	47, 69	151
152	W, Sheldon, W-103	Y	B	2, R	9, 9½	E, E	R, Own	½, ½	Sheldon		42x2½-50x3	L	Ross		W, Hayes	144	34x4-36x6	4,600	50, 70	152
154	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Detroit	8, 10	44x2-52x2½	L	Ross	42, 0	W, Prudden	142	34x3½-34x5	3,900	55, 78	154
155	W, Own	Y	W	2, R	13, 11	E, E	P	½, ½	Detroit	7, 12	38x2½-52x2½	L	Own	52, 2	W, Kelsey	124	32x3-32x4	2,550	50, 70	155
156	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	144	36x3½-36x5	4,000		156
157	W, Timken, 6456	N	W	2, R	10½, 8½	E, E	P	½, ½	U. S	6, 10	38x2½-48x3	L	Ross	50, 0	I, Smith	126	36x3½-36x5	4,150	50, 65	157
158	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	8, 9	36x2-50x3	L	C.A.S		W, E & O	144	34x3½-34x5	3,200	50, 75	158
159	I, Clark, 1D	N	B	2, R	14, 13	C, C	R, Own	½, ½	Spring Perch	9, 12	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-36x5p	3,400	50, 65	159
160	W, Timken, 6460	Y	W	2, R	10½, 9½	E, E	P	½, ½	Coghlin	7, 10	40x2½-52x3	L	Ross	48, 0	W, Hayes	140	34x4-34x5			160
161	W, Timken, 6552	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x3½-36x6			161
162	W, Sheldon, W-103			2, R		E, E	P, Slick-Knox	½, ½	Tuthill				Lavine		W, Bimel	144	36x3½-36x5	4,680		162
163	W, Chicago, C			2, R		E, E	P, Own	½, ½	Standard				Lavine		W, E & O	130	34x3½-34x5			163
164	W, Wisconsin			2, R		E, E	P, Savage	½, ½	Tuthill				Ross		W, Bimel	146	36x3½-36x5			164
165	B, Salisbury			2, R		C, E	R, Detroit		Tuthill				Lavine		W, Bimel	112	33x4-33x4			165
166	W, Sheldon, W21	Y	W	2, R	11, 9½	E, E	P	½, ½	Sheldon	9, 13	39x2½-54x3	R	Ross		W, Prudden	138	34x4-36x6	4,150	—, 90	166
166a	W	N		2, R		E, E	R	½, ½			40x2½-52x3		Ross		I, Smith	142	36x3½-36x5			166a
167	W, Own	N	S	2, R	9⅝, 9½	C, E	R, Own	½, ½		10, 11	41x2½-46x2½	L	Own	50, 0	W	144	34x3½-34x3½d	4,670	46, 67	167
168	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	9, 10	42x2½-52x3	L	Ross		I	140	34x3½-34x5	4,000	60, 75	168
169	W, Empire, N	Y	B	2, R	11, 11½	E, E	P, Detroit	½, ½	Cooper	8, 13	40x2½-52x2½	L	Ross	46, 6	W, Bimel	140	34x3½-34x5	3,900	45, 75	169
170	W, Sheldon, W-1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 14	38x2-50x2½	L	Lavine		W, Schwars	133	34x3-34x4	3,000	75, 75	170
171	E, Own	Y	W, Powrlok	2, R	10, 11½	E, E	P, Savage	½, ½	Sheldon	8, 11	36x2½-56x2½	L	Ross		W, Bimel	150	36x3½-36x5	4,500	35, 85	171
172	I, Torbensen, C2	Y	W, Powrlok	2, R		E, E	P, Detroit	½, ½	Mather	8, 15	39x2½-52½x2½	L	Jacox		W	144	34x4-34x6	3,300		172
173	W, Sheldon	Y	B	2, R	13½, 10½	E, E	R, Standard	½, ½	Perfection		40x2½-54x2½	L	Lavine		I, Smith	140	36x3½-36x6			173
173a	W, Sheldon			2, R		E, E			Sheldon				Ross		W, Hoopes	133	36x6p-36x6p	3,800	—, 62	173a
174	W, Timken			2, R		E, E	R, Own		Merrill				Ross		W	128½	34x4-34x5			174
175	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage	½, ½	Garden City	7, 12	36x2½-52x2½	L	Ross	54, 0	W, Standard	135	34x3½-34x5	3,900	20, 70	175
176	I, Torbensen, B	Y	B	2, R	10, 11½	C, E	P, Parish	½, ½	Rowland	7, 13	38½x2½-54x3	L	Ross		W, Schwars	140	34x3½-34x5	3,600		176
177	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Perfection	10, 10	40x2½-50x2½	R	Lavine	48, 0	W	137½	34x3½-34x5	3,560	56, 75	177
178	W, Timken, 6460	Y	B	2, R	11½, 9½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	36x3½-36x6	4,850	—, 65	178
179	W, Timken, 6460	Y	B	2, R	11½, 10½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	35x5p-38x7p	4,900	—, 65	179
180	W, Timken, 6460	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	10, 11	44x2½-56x3	L	Ross	53, 0	W, Hayes	144	34x4-36x6	4,760	—, 73	180
181	W, Sheldon	Y	W	2, R			P, Parish & B	½, ½	Mather		38x2½-54x2½	L	Ross		W, Royer	143	34x3½-34x5d			181
182	W, Timken, 6460	N	W	2, R	10½, 10½	E, E	P	½, ½	Mather	8, 10	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x3½-36x5	4,720	47, 91	182
183	I, Clark, 1D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	8, 11	41x2½-54x3	L	Ross	49, 0	W, Wayne	140	34x3½-34x5	3,440	56, 70	183
184	W, Sheldon, W-1501	N	W	2, R	11½, 11	E, E	P, Smith	½, ½	Sheldon	9, 11	40x2½-50x2½	L	Lavine	51, 0	W, Bimel	140½	36x3½-36x5	3,800	49, 69	184
185	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	R, Own	½, ½	Merrill	9, 9	38x2-52x3	L	Ross	45, 0	W, Wayne	129	36x3-36x5	3,500	54, 68	185
186	W, Chicago			2, R		E, E	P, Parish & B	½, ½	Maremont				C.A.S		W	144	34x4p-34x5			186
187	W, Sheldon, W102	N	R	2, R	10, 12	E, E	P	½, ½	Kalamazoo	9, 11	40x2-48x2½	L	Ross	47,0	I, Smith	135	36x3½-36x5	3,650	40, 60	187
188	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		42x2½-52x2½	L	Ross		W, Royer	142	35x5p-38x7p	4,520	—, 75	188
189	I, Clark, 1D	Y	B	2, R	11½, 12½	C, E	P, Detroit	½, ½	Detroit	7, 10	40x2½-54x3	L	Jacox		W	140	35x5p-38x7p	3,450	50, 70	189
190	W, Sheldon, W103	Y	W	2, R		E, E	P, Savage	½, ½			38x2½-50x2½	L	Ross		W, Schwars	138	36x4-36x6	4,700		190
191	I, Clark, 1D	Y	W, Powrlok	2, R	9½, 10	C, C	R, Mason	½, ½	Detroit	9, 11	42½x2½-54x2½	L	Gemmer	47, 6	W, Royer	144	34x3½-34x6	3,750	60, 80	191
192	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P	½, ½	Sheldon	9, 13	39x2½-52x2½	L	Ross	47, 0	W	140	36x3-36x5	4,500	50, 70	192
193	I, Clark			2, R			P					L			W	145	34x3½-34x5			193
194	W, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	133	34x3½-34x5			194
195	I, Clark, 1D	Y	B	2, R	11, 12½	C, E	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwars	144	36x3½-36x5	3,800	47, 67	195
196	I, Torbensen, CT	Y	W, Powrlok	2, R	10½, 12	C, E	P, Dunbar	½, ½	Mather	8, 11	40x2½-54x3	L	Ross	46, 0	W, Bimel	133	36x3½-36x5	3,650	52½, 85	196
197	I, Clark	Y	B, W	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden	140	-x4—x5	3,250	80, 80	197
198	W, Empire, N	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Sheldon		40x2½-52x3	L	Lavine		W, Crane	144	36x3½-36x5			198
199	W, Timken, 6460	Y	W	2, R	10, 10	E, E	P, Parish & B	½, ½	Sheldon	8, 10	41½x2½-50x3	L	Ross	51, 0	W, Bimel	144	36x3½-36x5	3,750	54, 76	199
200	W, Sheldon	Y	W	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit		40x2½-50x3	R	Ross		W	144	36x3½-36x5	4,100		200
201	W, Wisc., 800E	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 10	40x2½-52x3	L	Own		I, Smith	144	36x4-36x5	4,600	25, 75	201
202	W, Timken, 6460	Y	B	2, R	10½, 10½	E, E	R	½, ½	Perfection	8, 12	38x2½-52x2½	L	Ross		W	140	36x3½-36x5	3,800		202
203	I, Clark, 1D	Y	B	2, R	10, 11½	C, C	R, Own	½, ½	Harvey	9, 12	40x2½-48x2½	R	Lavine	56, 0	I, Own	140	34x3½-34x5	3,600	40, 75	203
204	I, Clark, 1D	Y	B	4, FR	11½, 10½	C, C	R	½, ½	Harvey	9, 12	40x2½-48x2½	L	Lavine	58, 0	I, Own	132	32x4-32x4	4,100	30, 60	204
205	W, Sheldon			2, R		E, E	P, Smith						Lavine		W	136	34x3½-34x4			205
206	W, Timken			2, R		E, E	P, Parish	½, ½	Delaney			L	Ross		W, Arch'ld	120	36x3½-36x5			206
207	I, Rugel			2, R		C, E	P, Parish & B	½, ½	Tuthill			L	Gemmer		W	140	34x3½-34x5			207
208	I, Rugel, P1-300	N	B	2, R	15, 14	E, C	P					L	Ross		W	150	36x3½-36x5	4,000	40, 70	208
209	W	Y	B	2, R	10½, 10	E, E	P, Detroit	½, ½	Mather	9, 12	40x2½-56x3	L	Ross		W	144	36x3½-36x6	4,900	60, 85	209
210	W, Timken, 6560	Y	B	2, R	11½, 9½	E, E	P	½, ½	Detroit	8, 12	40x2½-52x3	L	Ross	54, 0	W, Bimel	148	36x4-36x7	4,450	50, 70	210
211	W, Wisc., 800J	Y	B	2, R	12½, 10½	E, E	P, Parish & B	½, ½	Sheldon	9, 11	41x2½-52x3	L	Ross	61, 2	I, Smith	150	36x4-36x7	4,800	53, —	211
212	S, Own	Y	B	2, R		C, E	P	½, ½	T			R	Own		W	97		3,600		212
214	I, Clark, 2	N	S	2, R	14, 13	C, E	P, Parish & B	½, ½	Higgins	8,13	40x2½-52x3	L	Lavine	48, 0	W, Bimel	144	36x7-40x8	3,800	30, 75	214
215	I, Clark, 2	N	B	2, R	11, 11	C, E	R, Savage	½, ½	Mather	9, 12	40x2½-52½x3	L	Lavine	52, 0	S, Clark	154	36x4-36x7	4,000	50, 80	215
216	W, Timken, 6560	N	W	2, R	11½, 9½	E, E	R, Own	½, ½	Philadelphia	12, 14	44x2½-50x3	L	Ross	40, 0	W, Schwars	150	36x4-36x6	4,500	45, 70	216
217	W			2, R		E, E	R						Ross			152	36x4-36x7			217

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4,000 (Conestoga—Wolverine) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	4,000 Pounds—Con.																			
218	Conestoga, 30	2,700	Continental, N..	4	3¾x5-22.5	FS	Duplex	T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU3	N	Sterling	218
219	Day-Elder, D	2,750	Continental, C2.	4	4¼x5½-27.2	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, RUN3C.	N	Hartford	219
220	Dearborn, 48	2,590	Buda	4	3¾x5½-22.5	F	Simplex	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller	N	Hartford	220
221	Defiance, E		Own	4	3¾x5-22.5		N	P	C, Perfex		Stromberg			Y	P, Borg & B	S, 3	Grant-Lees			221
222	DeKalb, E2	2,250	Continental	4	4¼x5½-27.2		N	P	T, Jackson		Master		M, Eisemann		M, Fuller	S, 3			Hartford	222
223	Denby, 134	2,450	Continental, N..	4	3¾x5-22.5	F	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	223
224	Diamond T, U	3,485	Dia. T Design..	4	4x5½-25.6	F	Unit Mot.	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 4	Covert	N	Spicer	224
225	Dorris, K4	3,400	Own	4	4¼x5½-28.9	F	Own	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Warner	S, 4	Warner, T53	N	Spicer	225
225a	Douglas, H (int.)	2,650	Buda	4	4¼x5½-27.2	F	Pierce	P	T, Own		Schebler		M, Eisemann		M, Fuller	S, 3	Fuller		Arvac	225a
225b	Douglas, H (worm)	2,850	Buda	4	4¼x5½-27.2	F	Pierce	P	Own		Schebler		M, Eisemann		M, Fuller	S, 3	Fuller		Arvac	225b
225c	Eagle		Buda, CTU	4	3¾x5½-22.5	F		P	C	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert		M & E	225c
226	Erie			4	4¼x5½-27.2		Pierce	P	T		Stromberg		M, Bosch		M	S, 4				226
227	Fargo, P	2,250	Continental, N..	4	3¾x5-22.5	FS	Monarch	T	T, Own	N	Rayfield	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	227
228	Federal, UE	3,150	Continental, C4.	4	4¼x5½-27.2	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit	N	Spicer	228
229	Forschler, B	2,750	Continental	4	4¼x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 3	Fuller		Own	229
230	Fulton, C	2,350	Herschell-Spill..	4	3¾x5-16.9		Pierce	T	T, G & O		Carter		M, Simms	N	P, Borg & B	S, 3	Durston		Universal	230
231	Gabriel, E	3,250	Buda	4	4¼x5½-28.9		Duplex	P	C, G & O		Rayfield		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Spicer	231
232	Garford, 70H	3,190		4	4¼x5½-28.9	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		232
233	Giant, 16	3,050	Continental, C4.	4	4¼x5½-27.2	FS	Pierce	P	C, Own	Y	Schebler	G,K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	233
234	GMC, 41A		Continental, C2.	4	4¼x5½-27.2	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	234
235	Gramm-Bernstein, 20	3,275	Continental, C2.	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Stromberg	G	B, North East	N	M, Fuller	I, 4	Own	N	Own	235
237	Hall	2,875	Continental, C4.	4	4¼x5½-27.2	FS	Simplex	P	T, Long	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	237
238	Hendrickson	3,000	Buda, BU4R	4	4¼x5½-28.9	S		P	T, Chicago		Stromberg		M, Dixie		M, Fuller	S, 3	Fuller			238
239	Independent (Iowa), F	2,290	Continental	4	4¼x5½-27.2		N	P	C, Chicago				M, Bosch	N	M, Fuller	S, 3	Fuller		Blood	239
240	Independent (Ohio), G	2,300	Continental	4	4¼x5½-27.2		Monarch	P	T, Long		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	240
240a	Indiana, 20	3,140	Own	4	4¼x5½-27.2	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35	N	Acme	240a
241	International, G	2,800	Own	4	4x5-25.6	FS	Own	T	T, Long,McC	Y	Ensign	G	M, Dixie	N	M, Own	S, 3	Own	Y	Own	241
242	Jumbo, 20		Buda, CTU	4	3¾x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast	Y	M, Fuller	S, 3	Fuller, LTUS	Y	Arvac	242
243	Keldon, 19	2,885	Buda	4	4¼x5½-28.9		Waukesha	P	C, Eureka		Stromberg		M, Eisemann		P, Borg & B	S, 3	Covert		Acme	243
243a	Keystone, 40	1,795	Own	4	4x4½-25.6		Pierce	T	T, McCord		Zenith		M, Berling	N	M, Fuller	S, 3	Fuller		Spicer	243a
244	Kimball, B	3,675	Wisconsin, TU	4	4x6-25.6	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	244
246	Kleiber, BB	3,600	Continental, C4.	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	246
247	Lange, B	2,950	Continental	4	4¼x5½-27.2		Pierce	T	T, Own		Stromberg		M, Bosch	N	M, Hele-Shaw	I, 3	Own		M & E	247
247a	Luedinghaus, K	2,790	Waukesha,RU4R	4	4¼x5½-28.9	F	Waukesha	P	T, Own	N	Schebler	G	M, Splitdorf	N	P, Borg & B	S, 3	Detroit		Spicer	247a
248	Mack, AB (chain)	3,300	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	248
249	Mack, AB (worm)	3,300	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	249
250	Menominee, D		Continental, C4.	4	4¼x5½-27.2	S	Monarch	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	250
251	Midland, MT	3,000	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S,	Fuller, JU2			251
252	Muskegon, 20	2,325	Continental	4	4¼x5½-27.2		Pierce	P	C, Mayo		Detroit		M, Eisemann	N	M, Fuller	S, 3	Fuller		Arvac	252
253	Mutual, 2A	3,375	Wisconsin, TAU.	4	4x6-25.6	F	Duplex	P	C, Perfex	N	Stromberg	G	M, Bosch	Y	M, Hele-Shaw	S, 4	Fuller, G5	N	Spicer	253
254	Nash, 3018	2,550	Own	4	3¾x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 4	Detroit, H36	N	Own	254
255	Nash, 4017 Quad	3,250	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Own	N	Own	255
256	National, HA		Waukesha RU4K	4	4¼x5½-28.9	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 35	N	Spicer	256
257	Netco, D	3,100	Continental, C4.	4	4¼x5½-27.2	S	N	P	T, R'me-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Hartford	257
258	Niles, (Pa.), E	2,800	Continental, C4.	4	4¼x5½-27.2	FS	Pierce	P	C, Modine	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, O		Blood	258
259	Noble, C40		Buda	4	4x5½-25.6		Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		M & E	259
260	Northway, B2	3,400	Own	4	4x6-25.6	FS	Pierce	P	C, G & O	Y	Stromberg	G	B	Y	M, Fuller	S, 4	Fuller, GU6	N	Spicer	260
262	Olympic, A	3,300	Continental, C4.	4	4¼x5½-27.2	FS	Monarch	P	T, Long		Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	262
263	Oshkosh, A	3,750	Hers'l-Spill. 7000	4	3¾x5-19.6	FS	Duplex	T	C, Own	N	Zenith	G	B	Y	M, Brown-L	S, 4	Brown-L, 35	Y	Peters	263
264	Packard, 2E	3,600	Own	4	4x5½-25.6	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	264
265	Palmer	2,277	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	C, Fedders		Stromberg		M, Bosch		M, Fuller	S, 3	Fuller			265
267	Parker, F20	3,500	Wisconsin, TAU.	4	4x6-25.6	F	Monarch	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Fuller, G	N	Blood	267
268	Pierce-Arrow, X4	4,300	Own	4	4x5½-25.6	F	Own	P	T, Own	N	Own	G	M, Splitdorf	N	C, Own	S, 4	Own	N	Own	268
269	Pioneer, F	2,790	Continental	4	4¼x5½-27.2		Pierce	P	T, McCord		Stromberg		M, Eisemann	N	M, Brown-L	S, 4	Brown-L,		Spicer	269
270	Power, B	2,950	Continental, C2.	4	4¼x5½-27.2	FS	Pierce	P	C, Candler	N	Stromberg	G	M, Simms	N	M, Fuller	S, 4	Fuller		Universal	270
271	Rainier, R8	2,650	Continental, N..	4	3¾x5-22.5	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 30	Y	Hartford	271
272	Rowe, CDW	3,300	Wisconsin	4	4x5-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	272
273	Royal	3,200	Wisconsin	4	4x6-25.6		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own	N		273
274	Sandow, I	2,775	Continental, N..	4	3¾x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Fuller, TU3		Spicer	274
275	Schacht		Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 4	Own	N	M & E	275
276	Shaw, M3	2,700	Continental, C4.	4	4¼x5½-27.2	FS	Pierce	P	T, Long		Zenith		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			276
277	Southern, 20		Buda, ITU	4	4x5½-25.6	FS	Pierce	T	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	277
279	Sterling	3,100	Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L 35	N	Spicer	279
280	Stewart, 7	2,875	Continental, C4.	4	4¼x5½-27.2	FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Hartford	280
281	Stoughton, D	2,800	Hercules, CU3.	4	4x5½-25.6	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Thermoid	281
282	Sullivan, E	3,350	Buda, HTU	4	4¼x5½-28.9	S	N	P	T, Bush	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	282
283	Superior, E	2,750	Continental, C2.	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Arvac	283
284	Traffic, C	1,495	Continental, N..	4	3¾x5-22.5	FS	N	T	C, Own	N	Carter	G	M, Bosch	N	M, Covert	S, 3	Covert, MU-T	N	Universal	284
285	Transport, 50	2,785	Continental, C2.	4	4¼x5½-27.2	FS	Duplex	P	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	Hartford	285
286	Triangle, C	2,585	Waukesha, BU4.	4	3¾x5½-22.5	S	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	286
287	Triumph, H	2,350	Buda, CTU	4	3¾x5½-22.5	F	Pierce	P	C, Modine	Y	Bennett	G	M, Dixie	N	P, Borg & B	I, 3	Cotta, AAU	N	Hartford	287
287a	U. S. N. C		Continental, N	4	3¾x5-22.5		N	P	T, Long	Y	Stromberg	G	M, Eismann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	287a
288	Universal, D		Own	4	4¼x5½-28.9		Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			288
289	Victor (Mich.), B		Continental, N..	4	3¾x5-22.5	F	N	T	C, Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	289
290	Vim, 22	3,150	Hercules	4	3¾x5½-22.5	F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	290
291	White, 20	3,300	Own	4	3¾x5½-22.5	FS	N	P	C	N	Own	G	M		P, Own	S, 4	Own	N	Own	291
292	Wichita, M	2,800	Waukesha, BX..	4	3¾x5½-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	292
293	Winther, 49	3,250	Wisconsin, EAU.	4	4x5-25.6	F	N	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	293
293a	Wolverine,, D		Continental	4	3¾x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller			293a

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TRUCK SPECIFICATIONS

4,000 (Conestoga—Wolverine)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
218	W, Wisc., 800C	Y	W	2, R	11, 10	E, E	R, Own	½, ½	Iron City	9, 12	40x2½-52x3	L	Ross	50, 0	W, E & O	138	36x4-36x4d	4,200	50, 70	218
219	W, Sheldon, W103	Y	B	2, R	11, 10½	E, E	P, Savage	½, ½	Iron City	10, 15	40x2½-54x2½	L	Gemmer	51, 9	W, Jones	144	36x4-36x7	4,250	50, 70	219
220	W, Chicago, C4	Y	B	2, R	10½, 12	E, E	R, Own	½, ½	Maremont	7, 11	41½x2½-48x3	L	Ditweiler	49, 4	W, Crane	148	34x4½p-34x7	3,500	50, 80	220
221	I, Torbensen			2, R		E, E	P, Detroit		Detroit			L	Own		W, Crane	140	35x5p-38x7			221
222	W, Timken			2, R		E, E	P, Parish					L	Ross		W, Schwars.	134	34x3½-36x5			222
223	J, Russel, 3-201	Y	B	2, R	10, 13	C, E	P	½, ½	Detroit	8 13	44x2½-52x3	L	Ross	57, 1	W, Hayes	144	36x3½-36x6	3,800	50, 75½	223
224	W, Timken, 6560	Y	W	2, R		E, E	P, Smith	½, ½	Mather	9, 12	40x2½-53x2½	L	Gemmer		W	160	36x4-36x7	4,800	50, 90	224
225	W, Timken, 6552	Y	W	2, R	11½, 9½	E, E	P, Smith	½, ½	Rowland	9, 15	42x2½-56x3	L	Ross	60, 0	I, Smith	144	36x4-36x7	5,050	86, 70	225
225a	I, Torbensen			2, R					Own				Ross			128	36x4-36x7	3,900		225a
225b	W, Wisconsin			2, R					Own				Ross			128	36x4-36x7	3,900		225b
225c	I, Russel	Y		2, R				½, ½		8, 16		L	Lavine		W	130	34x3½-34x6	4,100		225c
226	W, Timken			2, R			P				40x2½-54x3		Ross	50, 9		144	34x3½-36x5			226
227	I, Russel, U	Y	B	2, R	10, 12	E, C	R, Own	½, ½	Sheldon			L	Jacox		W	140	36x4-36x6	4,200	85, 80	227
228	W, Timken, 6560	N	B	2, R	12½, 9	E, E	P	½, ½	Mather	9, 13	40x2½-54x3	L	Gemmer	50,9	W, Auto	156	36x4-36x7	4,800	60, 71	228
229	W, Sheldon			2, R		E, E	R, Own					L	Ross		I, Smith	144	36x4-36x7			229
230	I, Russel			2, R		C, C	P, Parish & B	½, ½	Rowland			L	Lavine	48, 0	W, E & O	137	34x4-34x6			230
231	W, Timken			2, R		E, E	P, Parish		Merrill			L	Gemmer		W, Standard	156	36x4-36x7			231
232	W	Y	B	2, R		E, E	P	½, ½		9, 11	42x2½-50x2½	L	Ross	57, 0	W	144	36x4-36x7	4,590		232
233	W, Sheldon, W103	Y	B	2, R	12½, 10½	E, E	P, Hydraulic	½, ½	Mather	8, 10	40x2½-56x3	R	Ross		W, Wayne	168	36x4-36x7	4,500	55, 75	233
234	W, Timken, 6560	N	B	2, R	12½, 9½	E, E	P Smith	½, ½	Detroit	8, 10	40x2½-54x3	L	Jacox		S, Own	144	36x4-36x7	4,855	53, 74	234
235	W, Sheldon, W103	Y	B	2, R	11, 10½	E, E	P, Own	½, ½	Perfection	11, 1 2	40½x2½-52x2½	L	Ross	51, 0	W, Bimel	144	36x4-36x7	5,100	72, 91	235
237	W, Timken, 6552	Y	W	2, R	12, 9	E, E	R	½, ½	Perfection	9, 12	40x2½-54x3	L	Gemmer		I, Smith	156	36x4-36x4	4,825	25, 80	237
238	W, Timken			2, R					Tuthill				Ross		W	140	36x4-37x7			238
239	I, Russel			2, R		C, E	R, Own		Garden City			L	Lavine		W, Prudden	146	34x4-34x6			239
240	W, Wisconsin			2, R		E, E	P, Parish & B		Iron City			L	Ross		S, Indestruct	144	34x4-34x6			240
240a	W, Sheldon, W-103	N	B	2, R	12½, 10½	E, E	R	½, ½	Sheldon	9, 11	40x2½-50x3	L	Wohlrab	48, 0	W, Bimel	150	36x4-36x7	5,360	58, 68½	240a
241	I, Own		B	2, R	10½, 12	E, E	P	½, ½		10, 14	39½x2½-55½x3	L	Own		W	138	36x4-36x6	4,060	50, 68	241
242	I, Clark, 1D	Y	B	2, R	11, 15½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	35x5p-38x7p	3,750	50, 75	242
243	I, Russel			2, R		C, E	R, Own	½, ½	Champion			L	Ross		I, Smith	144	36x4-36x7			243
243a	I, Russel			2, R		E, E	R, Own		Rowland			L	Ross		W, Wayne	144	34x4½p-36x5			243a
244	W, Sheldon, W102	Y	B	2, R		E, C	P, Parish	½, ½	U. S	10, 11	40½x2½-47x2½	L	Ross	39, 6	W, Weston		36x6p-36x7		50, 80	244
246	W, Timken, 6560	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W, Waterb'se	153	36x4-36x7	5,300	50, 75	246
247	C, Own			2, R		C, E	R, Own		Standard			L	Gemmer		W, Hoopes	136	36x4-36x6			247
247a	W, Wisconsin, J	N	B	2, R	10½, 10½	E, E	P, Parish & B	½, ½	Tuthill	9, 12	42x2½-54x3	L	Lavine		W, Bimel	145	36x4-36x7	4,400	—, 80	247a
248	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W, Schwars.	Opt.	36x4-36x4d	4,900	47, 70	248
249	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W, Schwars.	Opt.	36x4-36x4d	5,000	48, 70	249
250	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	160	36x4-36x4d	4,700		250
251	W, Timken, 6552			2, R		E, E	R, Own	½, ½					Ross		I, Smith	144	36x4-36x4d			251
252	I, Torbensen			2, R		C, E	P, Parish & B	½, ½	Sheldon			L	Lavine		W, Prudden	144	36x4-36x6			252
253	W, Sheldon, W21	N	B	2, R	11, 9½	E, E	P, Parish & B	½, ½	Mather	8, 10	41x2½-56x3	L	Ross	52, 0	I, Smith	152	36x4-36x8	5,800	40, 71	253
254	I, Clark, 2D	Y	W	2, R	9½, 9½	C, C	P, Own	½, ½	Alloy	10, 12	37½x2½-52x2½	L	Jacox	50, 0	W, Auto	144	34x4-34x6	3,850	51, 73½	254
255	I, Own	Y	W	4, FR	14½, 14½	E, C	P, Own	½, ½	Mather	9, 8	48x2½-48x2½	L	Lavine	50, 0	S	124	36x5-36x5	6,250	33½, 55	255
256	W, Timken, 6560	N	W	2, R	10½, 9	E, E	R	½, ½	Mather	9, 11	40x2½-54x3	L	Ross	26, 0	W, Hayes	141	34x4-34x4d	5,000		256
257	W, Timken, 6560	Y	B	2, R	12, 11	E, E	P	½, ½	Perfection	8, 12	39x2½-49x3	L	Ross		W, Arch'ld	168	36x4-36x6	4,940	57, 65	257
258	W, Timken, 6550	N	W	2, R	11, 9	E, E	P, Savage	½, ½	Iron City	9, 14	45x2½-53x3	L	Gemmer		W, Hoopes	140	36x4-36x7	4,600		258
259	W, Sheldon			2, R		E, E	P, Slick-Knox	½, ½	SpringPerch			L	Lavine		W, Bimel	148	36x4-36x7	4,900		259
260	W, Sheldon, W21	Y	B	2, R	14, 9	E, E	P, Parish & B	½, ½	Perfection	9, 10	42x2½-54x3	L	Ross	50, 0	S, Clark	146	36x4-36x4d	5,300	58½, 77½	260
262	W, Timken, 6560	N	B	2, R	10, 10	E, E	P, Savage	½, ½	Mather	7, 12	39x2½-50x3	L	Ross		W, St. M'r'y	158	36x4-36x7	4,850		262
263	B, Own	Y	B	4, FR	10½, 10½	C, C	P, Smith	½, ½	Tuthill	10, 11	50x2½-54x2½		Ross	52, 0	W, Bimel	146	36x6p-36x6p	4,500		263
264	W, Own	N	S	2, R	9½, 8½	C, E	R, Own	½, ½		11, 11	41x2½-46x2½	L	Own	56, 0	W	144	34x4-34x4d	5,100	48, 70	264
265	W, Own			2, R		E, E	P, Own	½, ½	Tuthill				Ross		W, Bimel	150	34x4-36x4d			265
267	W, Own,	N	B	2, R	9½, 10	C, E	P, Smith	½, ½	Tuthill	8, 12	51x3-60x3	L	Ross	56, 0	W, Bimel	150	34x4-36x4d	5,200	51, 71	267
268	W, Own	N	S	2, R	13, 9½	C, E	P, Parish	½, ½	Spring Perch	10, 13	41x2½-54x3	R	Own	42, 0	W, Own	150	36x4-36x4d	6,250	60, 75	268
269	W, Timken			2, R		E, E	P, Parish					L	Ross		S, Budd	144	36x4-36x7			269
270	W, Timken	Y		2, R		E, E	R, Own	½, ½	Detroit		44x2½-56x3	L	Ross		W, Hayes	150	36x4-36x4d			270
271	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P, Parish	½, ½	Perfection	9, 12	38x2½-50x2½	L	Ross		W, Schwars.	147	34x5-34x6	3,450	75, 75	271
272	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	140	34x4-36x3d	4,500	—, 62	272
273	W, Timken			2, R		E, E	R, Own		Merrill				Ross			132	36x4½-36x6			273
274	I, Torbensen, C2	Y	B	2, R	13, 13½	C, E	P, Savage	½, ½	Garden City	8, 12	38½x2½-54x3	L	Ross	60, 0	W, Standard	150	36x4-36x6	4,300	20, 70	274
275	W, Own	N	B	2, R	11, 9	C, E	R, Own	½ ½	National	9, 14	35x2½-50x3	L	Own		W, St. M'rys.	156	36x4-36x7	5,500	—, 70	275
276	W, Timken			2, R			P, Smith		Perfection				Gemmer		W	153	36x4-36x6			276
277	W, Sheldon	Y	W	2, R			P, Parish & B		Mather		38x2½-54x2½	L	Ross		W, Royer	157	35x3-35x5			277
279	W, Timken, 6560	N	W	2, R	12½, 10	E, E	P, W	½c ½c	Mather	8, 11	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x4-36x6	5,000	45, 97	279
280	I, Clark, 2D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½	Detroit	9, 12	41x2½-54x3	L	Ross	50, 0	W, Wayne	156	34x4-34x7	4,460	59, 72	280
281	W, Sheldon, W103	N	W	2, R	12½, 10½	E, E	P, Smith	½, ½	Sheldon	9, 12	40x2½-50x3	L	Lavine	51, 0	W, Bimel	140½	36x4-36x7	4,600	49, 69	281
282	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	Parish & B	½, ½	Sheldon	9, 11	40x2½-52x3	L	Ross	52, 0	W, Wayne	150	36x4-36x7	4,750	53, 71	282
283	I, Torbensen, CE	Y	B	2, R	13, 13	C, E	P	½, ½	Tuthill	8, 13	38x2½-51x3	L	Ross	46, 0	W, Schwars.	144	36x4½-36x6	3,600	75, —	283
284	I, Russel, PI-302	Y	B	2, R	11, 12	C, E	R, Own	½, ½	Detroit	9, 10	36½x2-46x2½	L	Own	48, 6	W, Bimel	132	34x3½-34x5	3,175	42, 85	284
285	I, Clark, 2D	Y	B	2, R	10½, 11½	C, E	P	½, ½	Detroit	9, 13	40x2½-54x3	L	Jacox		W	150	36x6p-40x8p	4,250	50, 70	285
286	I, Clark, 2D	Y	W, Powrlok	2, R		C, C	R, Mason	½, ½	Detroit	10, 12	42½x2½-54x3	L	Gemmer	56, 0	W, Royer	147	36x4-36x6	4,200	60, 80	286
287	I, Russel, P-300	Y	B	2, R	12, 13½	C, E	R	½, ½	Higgins	9, 11	36x2½-50x2½	L	Lavine	46, 0	W, Standard	144	36x3½-36x5	4,200	40, 70	287
287a	I, Clark, 1D	Y	B	2, R	11, 12½	E, C	P	½, ½	Sheldon	9, 10	38½x2½54x2½	L	Lavine	50, 0	W, Schwars	144	35x5p-38x7p	3,850	47,69	287a
288	C, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	132	36x5-36x4d			288
289	I, Clark	Y	BW	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden	140	—x4—x5	3,250	80, 80	289
290	W, Sheldon, W102	Y	W	2, R	12½, 10	E, E	P	½, ½	Sheldon	9, 12	42x2½-56x3	L	Gemmer	37, 10	I, Smith	142	36x4-36x6	4,700	40, 70	290
291	B, Own	N	B	2, R	10½, 9	C, E	P	½, ½				L	Own	60, 0	W	157½	36x4-36x7	4,150	54, 70	291
292	W, Sheldon	Y	W	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit		40x2½56x3	R	Ross		W	144	36x3½-36x6	4,400		292
293	I, Clark, 2D	Y	B	2, R	12, 11	C, C	R, Own	½, ½	Mather	8, 10	46x2½-56x3	R	Ross	60, 0	I, Own	147	34x4-34x4d	5,300	45, 80	293
293a	I, Russel	Y		2, R			P	½, ½			40x2½-54x3				W	144	34x4-34x3½d			293a

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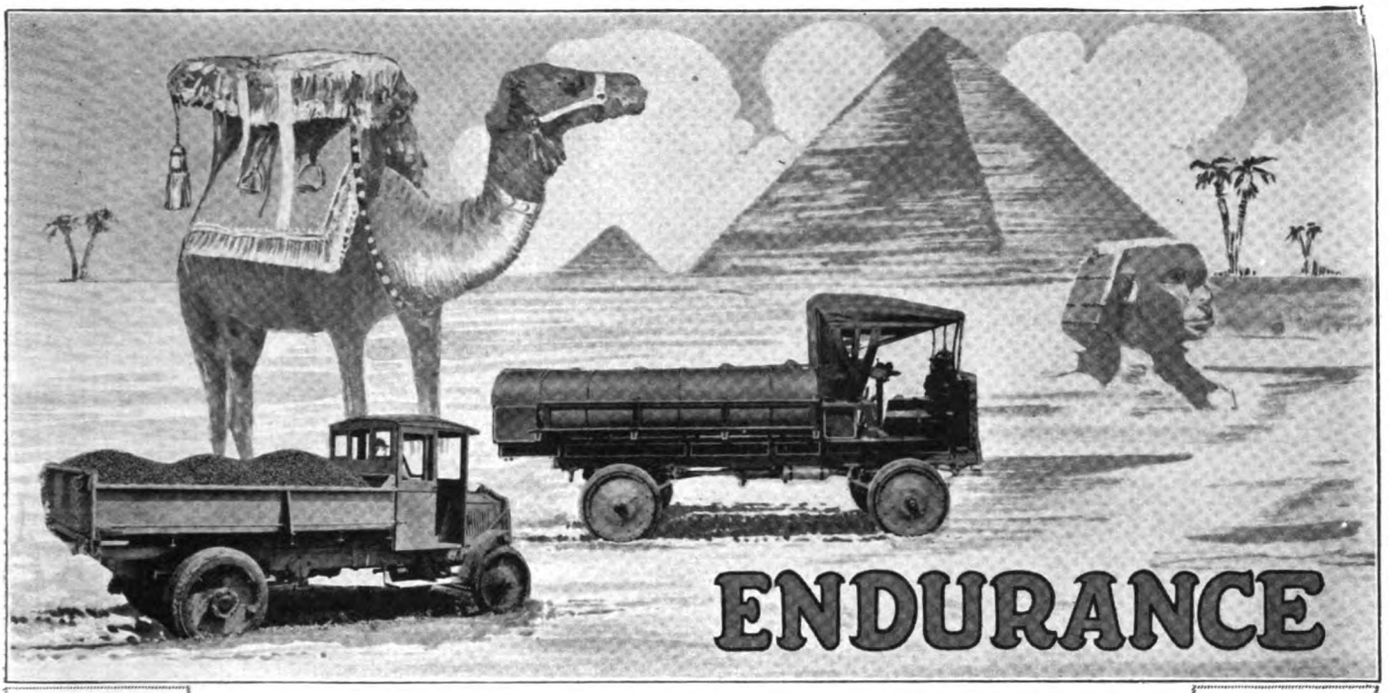

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Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	4,500 Pounds:																			
293b	Oneida, C9	3,390	Hinkl'y, HAA400	4	4½x5½-25.6	F	Own	P	C, Modine	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G5	N	Spicer	293b
	5,000 Pounds:																			
294	Acason, H	3,850	Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Detluff, H6	I, 4	Cotta, R	Y	Blood	294
295	Ace, A	3,450	Buda, HU	4	4½x5½-28.9	FS	Pierce	P	C, Modine	Y	Schebler	G	B, West'gh'se	Y	M, M & E	I, 4	Cotta	N	M & E	295
295a	Astra	3,375	Wisc., UAU	4	4½x6-28.9	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, R	N	Spicer	295a
295b	All-American	2,395	Herschell-Spill'n	4	3½x5 -19.6	FS		T			Stromberg		M, Simms		M	I, 4	Cotta			295b
296	Apex, E	2,695	Buda, HU	4	4½x5½-28.9	F	Simplex	P	C, G & O	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	296
297	Armleder, HW		Continental, C4	4	4½x5½-27.2	FS		P	T, Long	N	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, U50	N	Spicer	297
298	Atterbury, 7CX	3,375	Continental, C4	4	4½x5½-27.2	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	298
299	Available, H2½	3,250	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Ther.-Sp.	299
300	Beck, D	3,500	Continental	4	4½x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	300
301	Bell	2,750	Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit	Y	Universal	301
302	Bessemer, J2	3,285	Continental, C2	4	4½x5½-27.2	S	Pierce	P	C, Standard	Y	Rayfield	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 50	N	Arvac	302
303	Bethlehem, H		Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Fuller, G5	N	Universal	303
304	Bets, D2	2,785	Buda, HU	4	4½x5½-28.9	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4		N	Peters	304
305	Brockway, K4	3,060	Continental, C2	4	4½x5½-27.2	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	305
305a	Capital, H2½	3,450	Wisc., UAU	4	4½x6-28.9	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Detlaff	I, 4	Cotta	N	Thermoid	305a
306	Chicago, C2½	3,250	Hercules, CU3	4	4x5½-25.6	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Peters	306
307	Clydesdale, 65C	3,540	Continental, C4	4	4½x5½-29.0	S	Own	P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	307
308	Columbia, G	2,750	Hinkley, 400	4	4½x5½-25.6	F	Hinkley	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, RA3	N	Spicer	308
309	Concord, B	2,850	Buda	4	4½x5½-28.9		Monarch	P	T, Bush		Zenith		M, Eisemann		M, Brown-L	S, 3	Brown-Lipe		Spicer	309
310	Dart, M	3,000	Buda, HU	4	4½x5½-28.9	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Spicer	310
311	Day-Elder, C	2,950	Buda, TU	4	4½x5½-28.9	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, RU3C	N	Hartford	311
312	DeKalb, E2½	2,600	Continental	4	4½x5½-27.2		N	P	T, Jackson		Master		M, Eisemann	N	M, Fuller	S, 3	Fuller		Hartford	312
313	Denby, 25	3,250	Continental, C2	4	4½x5½-27.2	F	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	313
314	Dependable, E	2,750	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 4	Fuller, G5	N	Acme	314
315	Doane	3,750		4	4½x5½-28.9	FS		P					M, Bosch		M	S, 3	Brown-Lipe			315
316	Erie		Continental	4	4½x5½-27.2		Pierce	T			Stromberg		M, Bosch		M	S, 4				316
317	Fageol	3,400	Waukesha, RU4R	4	4½x5½-28.9	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	317
318	Gary, J	3,150	Buda, HTU	4	4½x5½-28.9	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	318
319	Gersix, G	3,150	Buda, LSU	4	4½x5½-28.9	F	Simplex	P	T, Chicago		Stromberg		M, Bosch		P, Borg & B	I, 3	Cotta, BUA			319
320	Gersix, K	3,150	Buda, HU	4	3½x5½-19.6	S	Monarch	P	C, Ideal		Stromberg		M, Bosch		P, Borg & B	I, 3	Cotta, BUA			320
321	Gramm-Bernstein, 25	3,875	Hinkley	4	4½x5½-28.9	F	Hinkley	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	321
323	Hahn, E	2,500	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			323
324	Hal-Fur, B	2,750	Buda	4	4½x5½-28.9		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	324
325	Harvey, WFA	3,300	Buda	4	4½x5½-28.9		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	325
326	Hawkeye, M	2,650	Buda	4	4½x5½-28.9		Simplex	P	T, Ideal		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller		Hartford	326
327	Hurlburt	3,750	Buda	4	4½x5½-28.9	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35			327
328	Indiana, 25	3,350	Own	4	4½x5½-27.2	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Acme	328
329	Jumbo, 25		Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	329
330	Kalamazoo, H		Wisconsin, TAU	4	4x6-25.6	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	330
331	Kankakee, E	2,465	Continental N9	6	3½x5½-25.3	FS		P	C, Auto	N	Zenith	G	B	Y	M, Muncie	S, 3	M'e AS-5-T23N	N	Acme	331
332	Kelly-Sp'gf'ld, K35(ch'n)	3,500	Own	4	3½x5½-22.5	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, O	N	Own	332
333	Kelly-Sp'gf'ld, K36(w'm)	3,500	Own	4	3½x5½-22.5	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, O	N	Spicer	333
335	Kimball, C	3,975	Wisconsin, UU	4	4½x6-28.9	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	335
335a	Kissel, Freighter	3,475	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	335a
336	Kleiber, B	4,200	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'n'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	336
337	Koehler, M	3,365	Hercules, CU3	4	4x5½-25.6	F	Simplex	P	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	337
338	K-Z	2,950	Continental, C4	4	4½x5½-27.2	S	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	338
339	Larrabee, SK		Continental, C4	4	4½x5½-27.2	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	339
340	L. M. C, 2-20	2,950	Continental, C2	4	4½x5½-27.2	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Borg & B	S, 4	Detroit, H	N	Baker	340
341	Maccar, H	3,750	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Spicer	341
342	Mapleleaf, BB		Hinkley, HA500	4	4½x5½-28.9	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	342
342a	Master, D, (int.)	3,540	Buda, HU	4	4½x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342a
342b	Master, W, (worm)	3,290	Buda, HU	4	4½x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342b
343	Midland, S	3,150	Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-L, 50			343
344	Moreland, 19C	3,775	Continental	4	4½x5½-32.4	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	344
344a	Nelson & LeMoon, F2½		Continental	4	4½x5½-27.2		Pierce	P	T, Chicago		Stromberg		M, Bosch	N	M, Brown-L	S, 3	Brown-Lipe		Thermoid	344a
345	Netco, H	3,500	Continental, E4	4	4½x5½-32.4	S	N	P	T, R'e-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	345
346	Noble, D50		Buda	4	4½x5½-28.9		Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 4	Fuller		M & E	346
347	Ogden, C2		Continental, C2	4	3½x5-23.5	S	Pierce	T	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30		Acme	347
347a	O. K., L	3,250	Buda, HTU	4	4½x5½-28.9	FS	Pierce	P	T, R'me-T'n'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, GU5		Hartford	347a
348	Old Reliable, B	3,250	Wisconsin, UU	4	4½x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	348
348a	Orleans			4	4½x5½-27.2			P	T	Y	Master	G	M, Eisemann	N	M	I, 4	Cotta			348a
349	Paige, 54-20		Hinkley, HA500	4	4½x5½-27.2	F	Simplex	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	349
350	Patriot, Washington	3,450	Hinkley, HA	4	4½x5½-32.4	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Covert, RA4	N	Thermoid	350
351	Reliance, B20	3,200	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	I, 4	Cotta, R	N	Peters	351
352	Republic, 19		Continental, C2	4	4½x5½-27.2	FS	Pharo	P	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 4	Fuller, GU5	N	Spicer	352
353	Reynolds, 5A	3,800	Hinkley	4	4½x5½-28.9	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	353
354	Rowe, CDW	3,575	Wisconsin	4	4x5-25.6	F	Simplex	P	Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	354
355	Royal	3,500	Wisconsin	4	4½x6-28.9		Monarch	T	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			355
356	Sandow, J	3,375	Continental, C4	4	4½x5½-27.2	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	356
357	Sanford, W25	3,350	Cont nental, C4	4	4½x5½-27.2	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35	N	Spicer	357
358	Schacht		Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 4	Own	N	M & E	358
359	Schwartz, C2	2,675	Continental, K4	4	4½x5½-27.2	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50	N	M & E	359
360	Selden, 2½A		Continental, C4	4	4½x5½-27.2	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	360
361	Service, 51	3,475	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	361
361a	Signal, J	3,275	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	361a
361b	Standard, 76		Continental, C2	4	4½x5½-27.2	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	361b

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TRUCK SPECIFICATIONS

4,500—5,000 (Standard)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
293b	W, Wisc., 900C..	N	B	2, R	10½, 9	E, E	P, Detroit.....	½, ½	Mather....	9, 13	40x2½-56x3 ...	L	.....	.....	W	160	36x3-36x7.....	5,2 0	60, 85	293b
294	W, Timken, 6560..	Y	W	2, R	13, 10	E, E	P, Savage....	½, ½	Detroit....	10, 14	40x2½-50x3....	L	Ross.....	.....	W, Bimel...	150	36x4-36x8.....	4,850	—, 76	294
295	W, Timken, 6560..	Y	W	2, R	11¼, 9½	E, E	P, Parish & B..	½, ½	Mather....	10, 12	39x2½-54x3....	L	Ross.....	60, 0	S. Davton..	156	36x6p-40x8p.....	5,650	25, 60	295
295a	W, Sheldon, W21.	N	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	12, 14	40x2½-52x3....	L	Ross.....	.....	W.....	150	36x4-36x4d	.....	50, 70	295a
295b	I, Torbensen	...	W, Powrlok.	2, R	.....	...	P.....	½, ½	.....	10 12	40x2½-54x3....	...	.....	.....	W.....	130	34x4-34x6.....	.....	.....	295b
296	I, Torbensen.....	Y	B	2, R	11, 13½	C, E	R.....	½, ½	Detroit....	10, 13	39½x2½-52½x3..	L	Lavine....	.....	W, Bimel...	150	36x4-36x6.....	4,510	—, 66	296
297	W, Timken, 1540B	N	W	2, R	10, 10	E, E	P.....	½, ½	Mather....	7, 9	42x2½-60x3....	L	Ross.....	52, 0	W,St. M'rys.	148	36x4-36x4.....	4,600	60, 80	297
298	W, Timken, 6560..	Y	B	2, R	15, 9½	E, E	P.....	½, ½	Spring Perch	9, 12	41½x2½-54x3....	R	Gemmer..	55, 9	W, Arch'b'ld	153½	36x4-36x4d.....	5,070	.....	298
299	W, Wisc., 900C...	N	W	2, R	11, 10	E, C	R, Own.....	½, ½	Tuthill....	9, 14	40x2½-52x3....	L	Ross.....	44, 0	W, Schwarz.	152	36x4-36x8.....	5,000	55, 75	299
300	W, Timken.....	N	W	2, R	14, 12	C, E	P.....	½, ½	Higgins....	9, 15	40x2½-52x3½....	L	Lavine..	48, 0	W, Bimel...	144	36x5-36x8.....	4,200	30, 75	300
301	I, Russel.....	Y	B	2, R	11,14	C, E	R, Own.....	½, ½	Detroit	9, 14	42x2½-56x3....	L	Gemmer..	52, 0	W, Bimel...	146	34x4-34x6.....	4,200	50, 70	301
302	I.....	N	B	2, R	9½, 12	C, E	P.....	½, ½	Perfection..	10, 12	41½x2½-56x3..	L	Ross.....	.....	W, Schwarz.	158	36x4-36x4d.....	4,625	50, 75	302
303	I, Russel, R1300..	Y	B	2, R	12½, 13½	C, E	P, Detroit.....	½, ½	Mather	9, 11	40x2½-56x3....	L	Lavine...	51, 0	I. Smith....	143	34x4-34x6.....	3,950	—, 90	303
304	W, Timken, 6560.	Y	B	2, R	11, 9	F, E	P, Parish & B..	½, ½	Temme....	8, 14	40x2½-55x3....	L	Ross.....	35, 0	S, Dayton..	150	36x4-36x7.....	4,750	75, —	304
305	W, Timken, 6560..	N	B	2, R	.....	E, E	P.....	½, ½	Merrill.....	10, 13	43x2½-51½x3....	L	Gemmer..	.....	W, Hoopes..	152	36x4-36x7.....	4,850	54, 84	305
305a	W, Wisc.. 900C..	Y	B	2, R	11¼, 9½	E, E	R.....	½ ½	Spring Perch	.....	42x3-56x3½.....	L	Ross.....	54, 0	S, Detroit..	.....	36x4-36x8.....	5,100	55, 85	305a
306	W, Timken, 6560..	Y	B	2, R	12 ,9	E, E	R, Own.....	½, ½	Mather....	9, 13	40x2½-54x3....	L	Gemmer..	.....	W, Standard	156	36x4-36x7.....	4,610	60, 75	306
307	W, Timken, 6560..	N	B	2, R	11½, 9	E, E	P, Parish & B..	½, ½	Perfection..	7, 10	44x3-52x3.....	L	Ross.....	61, 0	I, Smith....	163	36x4-36x7.....	4,850	60, 80	307
308	I, Russel, NI-400..	Y	B	2, R	.....	C, E	R.....	½, ½	Perfection..	9, 11	40x2½-52x3½....	L	Own.....	.....	W,St. M'rys.	144	36x4-36x7.....	5,100	.....	308
309	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish & B..	....	Spring Perch	.....	.....	L	Ross.....	.....	W, Crane...	150	36x4-36x4d.....	.....	.....	309
310	W, Own.....	Y	B	2, R	10½, 10½	E, E	P, Savage.....	½, ½	Perfection..	8, 11	39x2½-56x3....	L	Ross.....	50,0	W, Prudden.	150	36x4-36x7.....	4,750	50, 80	310
311	W, Sheldon, W21.	Y	B	2, R	12½, 9½	E, E	P, Savage.....	½, ½	Iron City...	9, 14	42x2½-56x3	L	Gemmer	54, 0	W, Jones...	150	36x4-36x7.....	5,000	50, 70	311
312	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish.....	....	Mather.....	....	.....	L	Ross.....	....	W, Schwarz.	136	36x4-36x6.....	.....	.....	312
313	I, Russel, U.....	Y	B	2, R	10, 13	C, E	P, Detroit.....	½, ½	Detroit....	10, 14	44x2½-54x3½...	L	Ross.....	57, 1	S, Dayton..	149½	36x4-36x7.....	4,790	52, 79½	313
314	W, Wisc., 900C...	Y	W	2, R	10, 10	E, C	P.....	½, ½	Perfection..	11, 14	42x2½-52x3....	L	Ross.....	36, 0	W, Bimel...	157	36x4-36x7.....	5,600	40, 70	314
315	C.....	....	.....	2, R	.....	E, E	P.....	½, ½	.....	.....	.....	...	.....	.....	W.....	156	36x5-36x7.....	.....	.....	315
316	W, Timken.....	....	.....	....	.....	....	P.....	....	.....	.....	.....	...	Ross.....	.....	.....	160	34x4-36x5.....	.....	.....	316
317	W, Timken, 6560..	Y	B	2, R	9½, 10	E, C	R, Own.....	½, ½	Mather....	9, 13	41x2½-56x3....	L	Ross.....	56, 1	W, Prudden.	144	34x4-36x7.....	4,600	50, 71	317
318	W, Timken, 6560..	Y	W	2, R	12, 10½	E, E	P.....	½, ½	Tuthill....	11, 13	44x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	148	36x4-36x7.....	4,850	50, 20	318
319	W, Own.....	....	.....	2, R	.....	C, E	R, Own.....	½, ½	Tuthill....	.....	.....	....	Ross.....	.....	W, Jones...	150	36x4-36x7.....	.....	.....	319
320	W, Own.....	....	.....	2, R	.....	C, E	R, Own.....	½, ½	Tuthill....	.....	.....	....	Ross.....	.....	W, Jones...	150	36x4-36x7.....	.....	.....	320
321	W, Standard.....	Y	B	2, R	.....	E, E	P, Own.....	½, ½	Perfection..	.....	46x2½-58x3....	L	Ross.....	59, 6	I, Smith....	150	36x4-36x4d.....	6,800	73½, 91	321
323	W, Timken.....	....	.....	2, R	.....	....	P.....	....	Delaney....	.....	.....	....	Ross.....	.....	W.....	156	36x4-36x4d.....	.....	.....	323
324	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish & B..	....	Spring Perch	.....	.....	L	Gemmer..	.....	S, Massillon.	168	35x5-36x7.....	.....	.....	324
325	W, Sheldon.....	....	.....	2, R	.....	E, E	R, Own.....	....	Sheldon....	.....	.....	L	Ross.....	.....	W, Schwarz.	150	36x4-36x7.....	.....	.....	325
326	I, Clark.....	....	.....	2, R	.....	C, E	R, Own.....	½, ½	Detroit....	.....	.....	L	Ross.....	.....	W, Bimel...	148½	36x4-36x6.....	.....	.....	326
327	W, Hindley.....	....	.....	2, R	.....	E, C	P, Savage.....	½, ½	Perfection..	.....	.....	....	Ross.....	.....	W, Wayne..	170	36x4-36x4d.....	.....	.....	327
328	W, Sheldon, W21..	N	B	2, R	12½, 9½	E, E	R.....	½, ½	Sheldon....	9, 14	40x2½-50x3....	L	Wohlrab..	50, 0	W, Bimel...	156	36x4-36x8.....	6,000	61, 71½	328
329	I, Clark, 2D.....	Y	B	2, R	10, 11½	C, E	P.....	½, ½	Detroit....	9, 14	40x2½-54x3....	L	Jacox....	45, 0	S, Clark....	152½	36x4-36x7.....	4,800	50, 75	329
330	W, Sheldon, W21..	N	W	2, R	9½, 9	E, E	R.....	½, ½	Sheldon....	8, 13	42x2½-56x3....	L	Ross.....	34, 3	I, Smith....	160	36x4-36x8.....	6,200	—, 80	330
331	I, Russel, S.....	Y	B	2, R	9, 13½	C, E	R, Own.....	½, ½	Temme....	9, 11	39½x2½-49½x3..	L	Ross.....	.....	W, Bimel...	170	34x4-34x6.....	4,200	30, 70	331
332	C, Own.....	N	B	2, R	9½, 16	E, E	P.....	½, ½	Perfection..	11, 13	40x2½-44x2½....	L	Gemmer..	48, 0	W.....	144	36x4-36x4d.....	5,200	50, 90	332
333	W, Own.....	N	B	2, R	9½, 9½	E, E	P.....	½, ½	Perfection..	11, 12	40x2½-47½x3....	L	Gemmer..	48, 0	W.....	144	36x4-36x4d.....	5,540	50, 90	333
335	W, Sheldon, W21..	Y	B	2, R	.....	E, C	P, Parish.....	½, ½	U. S.....	11, 13	40½x2½-50½x3..	L	Ross.....	39, 6	I, Smith....	.....	36x6p-36x8.....	.....	50. 80	335
335a	W, Timken, 6560..	Y	W	2, R	10½, 10	E, E	P, Smith.....	½, ½	Mather....	10, 11	38x2½-54x3....	L	Lavine...	50, 0	W Prudden.	168	36x4-36x7.....	5,200	57½, 76	335a
336	W, Sheldon, W21..	Y	W	2, R	9½, 9½	E, E	R, Own.....	½, ½	Betts.....	8, 14	44x3-52x3.....	R	Ross.....	.....	W,Wat'rh'se	160	36x4-36x8.....	5,900	50, 75	336
337	W, Timken, 6560..	Y	B	2, R	12, 9½	E, E	P, Parish & B..	½, ½	Mather....	10, 12	40x2½-56x3....	L	Lavine...	.....	W, Wayne..	162	36x4-36x7.....	5,000	50, 75	337
338	W, Timken, 6560..	N	B	2, R	12½, 10½	E, E	R, Own.....	½, ½	Tuthill....	8, 10	40x2½-50 3....	L	Ross.....	64, 8	W,St. M'rys.	150	36x4-36x8.....	4,800	.....	338
339	W, Sheldon, W21..	Y	B	2, R	15, 10	E, E	P, Parish & B..	½, ½	Merrill.....	9, 13	41x2 54x3.....	L	Ross.....	.....	W, Hoopes..	156	36x4-36x7.....	5,200	42, 86	339
340	I, Russel, S.....	Y	B	2, R	10½, 14½	C, E	R, Chopper....	½, ½	Mather.....	9, 11	42x2½-56x3....	L	Lavine...	47, 0	W, Bimel...	164	36x4-36x4d.....	4,500	53, 75	340
341	W, Timken, 6560..	N	B	2, R	12½, 10	E, E	P, Parish.....	½, ½	Merrill.....	8, 12	42x2½-56x3....	L	Ross.....	.....	S, Dayton..	162	36x4-36x4d.....	5,000	—, 70	341
342	W, Sheldon, W21..	Y	B	2, R	11½, 9½	E, E	R, Own.....	½, ½	Sheldon....	.....	44x2½-54x3....	L	Ross.....	.....	W, Hayes...	150	36x4-36x4d.....	5,500	50, 70	342
342a	I, Walker.....	Y	BS	2, R	.....	C, E	P, Parish & B..	½, ½	Detroit....	11, 13	44½x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	144	34x4-36x7.....	4,300	53, 76	342a
342b	W, Timken, 6560..	Y	B	2, R	9½, 10½	E, E	P, Parish & B..	½, ½	Detroit....	11, 13	44½x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	144	34x4-36x7.....	4,500	53, 76	342b
343	W, Sheldon, W21..	....	.....	....	.....	E, E	P, Parish & B..	½, ½	Sheldon....	.....	.....	....	Ross.....	.....	I. Smith....	150	36x4-36x7.....	.....	.....	343
344	W, Timken, 6552..	N	W	2, R	12, 10	E, E	P.....	½, ½	U. S.....	10, 11	39½x2½-50x3½..	L	Ross.....	50, 0	I. Smith....	144	36x4-36x7.....	5,400	50, 65	344
344a	W, Timken, 6560	Y	.....	2, R	.....	E, E	R, Own.....	½, ½	Tuthill.....	.....	.....	R	Lavine...	.....	W, Prudden.	.....	36x4-36x7.....	.....	.....	344a
345	W, Timken, 6560..	Y	B	2, R	12, 11	E, E	P.....	½, ½	Perfection..	10, 15	39x2½-49½x3....	L	Ross.....	.....	W, Arch'b'ld	168	36x4-36x8.....	5,120	57, 65	345
346	W, Sheldon.....	....	.....	2, R	.....	E, E	P, Slick-Knox..	....	SpringPerch	.....	.....	L	Lavine...	.....	W, Bimel...	150	36x4-36x8.....	5,700	.....	346
347	W, Timken.....	Y	B	2, R	10, 10	E, E	P Garden City.	C, C	Tuthill.....	8, 10	38x2½-50x2½....	L	Gemmer..	.....	W, Standard	160	36x3½-36x4.....	3,400	—, 70	347
347a	W, Wisc., 900.....	....	.....	2, R	.....	E, E	P, Savage.....	½, ½	Liggett.....	.....	.....	....	Ross.....	.....	W, Bimel...	150	336x4-36x8.....	.....	.....	347a
348	W, Sheldon, W21..	Y	W	2, R	10½, 9½	E, E	R.....	½, ½	Sheldon....	9, 14	46x3-54x3.....	R	Ross.....	.....	W,St. M'rys.	160	34x4-36x4d.....	5,750	—, 70	348
348a	W.....	N	.....	2, R	.....	E, E	R.....	½, ½	.....	.....	42x2½-54x3	...	Ross.....	.....	I, Smith...	160	36x4-36x7.....	.....	.....	348a
349	W, Timken.....	N	B	2, R	.....	E, E	P.....	½, ½	Perfection..	11, 11	45x2½-54x3....	L	Ross.....	.....	S, Dayton..	150	34x4-34x4d.....	5,200	60, 75	349
350	W, Empire, O....	Y	B	2, R	10, 10½	E, E	P, Detroit.....	½, ½	Cooper.....	10, 15	44x2½-56x3....	L	Ross.....	51, 10	W, Bimel...	156	36x4-36x7.....	5,200	49, 82	350
351	E, Badger.....	Y	W, Powrlok..	2, R	10, 10½	E, E	P, Savage.....	½, ½	Sheldon....	9, 11	46x2½-58x2½....	L	Ross.....	.....	W, Bimel...	156	36x4-36x4d.....	5,500	40, 85	351
352	I, Torbensen, C2..	Y	W, Powrlok..	2, R	.....	E, E	P, Detroit.....	½, ½	Mather....	9, 13	38½x2½-52½x3..	L	Jacox....	.....	W.....	144	36x4-36x7.....	4,200	.....	352
353	W, Sheldon.....	Y	B	2, R	11, 9½	E, E	R, Standard...	½, ½	Perfection..	.....	40x2½-54x3....	L	Lavine...	.....	I, Smith....	154	36x4-36x8.....	.....	.....	353
354	W, Sheldon, W21..	....	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	.....	.....	L	Ross.....	.....	W, Hoopes..	162	34x4-36x4d.....	4,500	—, 64	354
355	W, Timken	....	.....	2, R	.....	E, E	R, Own.....	....	Merrill.....	.....	.....	....	Ross.....	.....	W.....	132½	36x4½-36x6.....	.....	.....	355
356	W, Timken, 6560.	Y	W	2, R	9½, 9½	E, E	P, Savage.....	½, ½	Garden City	8, 13	38½x2½-54x3....	R	Ross.....	36, 0	W, Standard	165	36x4-36x7.....	4,650	20, 70	356
357	W, Sheldon, W21..	Y	W	2, R	11, 9½	E, E	P, Parish & B..	½, ½	Perfection..	9, 13	42x2½-52x3....	L	Ross.....	58, 0	W, Hoopes..	174	36x4-36x4d.....	5,330	73, 87	357
358	W, Own.....	N	B	2, R	11, 9	C, E	R, Own.....	½, ½	National...	9, 14	35x2½-50x3....	L	Own.....	.....	W,St. M'rys.	156	36x4-36x4d.....	6,000	—, 70	358
359	I, Torbensen, D...	Y	B	2, R	10, 11½	C, E	P, Parish.....	½, ½	Rowland...	10, 15	40½x2½-54x3....	L	Ross.....	.....	W, Schwarz.	150	34x4-34x7.....	4,200	.....	359
360	W, Timken, 6560.	N	B	2, R	12, 10½	E, E	P, Parish & B..	½, ½	Perfection..	9, 14	40x2½-54x3....	R	Gemmer..	54, 0	S.....	145	36x4-36x7.....	5,400	52, 75	360
361	W, Timken, 6560..	Y	B	2, R	12, 9½	E, E	P.....	½, ½	Mather....	10, 14	42x2½-54x3....	L	Ross.....	48, 0	W, Bimel...	160	36x4-36x7.....	5,180	—, 70	361
361a	W, Timken, 6560..	N	B	2, R	11, 11	E, E	P, Savage.....	½, ½	Detroit....	10, 13	44x2½-56x3....	L	Ross.....	60, 0	W, Hayes...	150	34x4-36x8.....	5,210	—, 76	361a
361b	W Timken, 6560..	N	B	2, R	12, 9½	E, E	R, Own.....	½, ½	.....	8, 12	38x2½-54x3....	L	Ross.....	.....	W.....	140	36x4-36x7.....	4.430	59, 71	361b

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5,000 (Sterling)—7,000 (Kelly-Springfield) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	5,000 Pounds—Con.																			
362	Sterling	3,475	Own	4	4½x5½-30.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	362
363	Super, 50		Wisconsin, TAU	4	4x6-25.6	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Thermoid	363
364	Tiffin, MW	3,200	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Peters	364
365	Titan	3,400	Buda, HTU	4	4½x5½-28.9	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, AU	N	M & E	365
366	Tower, H	3,475	Continental, C4	4	4½x5½-27.2	S	Pierce	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N		366
367	Traylor, D	3,375	Buda, MTU	4	4½x5½-28.9	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 4	Covert	N		367
368	Triangle, B	2,850	Waukesha, FU	4	4x5½-25.6	FS	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Detroit	368
369	Ultimate, B		Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	369
370	Union, F	3,150	Wisconsin, TAU	4	4x6-25.6	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	370
371	United, B		Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			371
372	U. S., H	3,250	Continental	4	4½x5½-27.2		Pierce	P	C, Fedders		Stromberg		M, Eisemann		C, Hartford	S, 4	Brown-L		Blood	372
372a	Vulcan, 25	3,750	Wisc., UAU	4	4½x6-28.9	F	Pierce	P	T	Y	Zenith	G	M, Eisemann	N	M, Brown-L, 50	S, 4	Brown-L, 50	N	Spicer	372a
373	Walker-Johnson, B	2,890	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T,		Zenith		M, Eisemann		M,	S, 4				373
374	Ward LaFrance, 2B	3,590		4	4½x5½-30.6	F		P	T, Own	Y	Zenith	G	M, Berling	N	M, Brown-L	S, 4	Brown-L, 50	N	M & E	374
375	Watson, 19		Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	T, R'e-T'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	375
375a	White Hickory, K	3,350	Continental, C2	4	4½x5½-27.2	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	M & E	375a
376	Wichita, R	3,000	Waukesha, BX	4	3½x5-22.5	P	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	376
376a	Wichita, RX	3,600	Beaver, JB	4	4½x6-28.9	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	376a
377	Wilcox, C		Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		377
378	Wilson	3,150	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Thermoid	378
379	Winther, 450	3,690	Wisconsin, EAU	4	4x5-25.6	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU5	N	Peters	379
380	Wisconsin, C	2,850	Waukesha	4	4x5½-25.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			380
381	Witt-Will, P	2,950	Continental	4	4½x5½-27.2		Pierce	P	C, Modine		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	381
	6,000 Pounds:																			
382	A & B, 3T	4,500	Own	4	5½x4½-42.8		N	P	T, Bush		Schebler		M, Bosch	N	N	* 2	*		Franck	382
383	Beck, D	3,500	Continental	4	4½x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	383
384	Beech Creek, 3A	3,850	Waukesha	4	4½x5½-28.9		Waukesha	P			Master		M, Eisemann		M, Fuller	S, 3	Fuller			384
384a	Douglas, I	3,350	Buda	4	4½x5½-28.9		Pierce	P	T, Own		Schebler		M, Eisemann		M, Fuller	S, 4	Fuller		Arvac	384a
385	Forschler, BX	3,450	Continental	4	4½x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 4	Fuller		Own	385
386	FWD, B	4,750	Wisconsin, A	4	4½x5½-36.1	FS	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Hele-Shaw	I, 3	Cotta, DAF	N	Blood	386
387	Jumbo, 30		Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	387
388	Kimball, K	4,400	Wisconsin, AU	4	4½x5½-36.1	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	388
390	Packard, 3E	4,350	Own	4	4½x5½-32.4	F	Own	P	C, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther.-Sp.	390
391	Riker, B		Own	4	4½x6-28.9	S	Own	P	T	N	Own	G	M, Berling	N	C, Own	S, 4	Own	N	Own	391
392	Rowe, GSW (4-cyl.)	3,900	Wisconsin	4	4x5-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	392
393	Rowe, GPW (8-cyl.)	4,950	Herschell-Spill	8	2½x5-16.2	F	N	P	C, Fedders		Zenith	G	Atwater-K	Y	M, Brown-L	S, 4	Brown-Lipe		Spicer	393
393a	Stoughton, F	3,600	Hercules, MU2	4	4½x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Thermoid	393a
393b	U. S. R		Hink'y HAR400	4	4x5½-25.6	F	Hinkley	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Blood	399b
394	Vim, 23	3,950	Hercules	4	4½x5½-28.9	F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	394
395	Walter (N. Y.), T		Waukesha, CU	4	4½x5½-30.6	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Brown-L, 50		M & E	395
396	White, 40	4,500	Own	4	3½x5½-22.5	F	Own	P	T, Own	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	396
	7,000 Pounds:																			
397	Acason, L	4,900	Waukesha, DU	4	4½x6½-32.4	F	Waukesha	P	C, National	Y	Stromberg	G	M, Eisemann	N	M, Detlaff, H8	I, 4	Cotta, R	Y	Blood	397
398	Acme, C	4,050	Continental, E7	4	4½x5½-32.4	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	N	Blood	398
398a	Aetna	4,375	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, S	N	Spicer	398a
399	All-Power, SV4	4,800	Continental	4	4½x5½-32.4		Pharo	P	T, McCord		Zenith		M, Eisemann	Y	M, Detlaff	I, 3	Cotta		Universal	399
400	Armleder, KW		Continental, E4	4	4½x5½-32.4	FS		P	T	N	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, U50	N	Spicer	400
401	Atterbury, 7D	4,175	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	401
402	Available, H3½	4,200	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Ther.-Sp.	402
403	Belmont, D	3,550	Buda, YU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, G	N	Sterling	403
404	Bethlehem, J		Own	4	4½x5½-32.4	F	Pierce	P	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 4	Fuller, G5	N	Universal	404
405	Brockway, R2	3,900	Continental, E4	4	4½x5½-32.4	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	405
405a	Capital, M3½	4,150	Wisc., UAU	4	4½x6-28.9	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Detlaff	I, 4	Cotta	N	Thermoid	405a
406	Chicago, C3½	4,450	Hercules, MU3	4	4½x5½-32.4	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Peters	406
407	Clydesdale, 90C	4,400	Continental, E4	4	4½x5½-32.4	S	Own	P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	407
408	Dart, W	4,000	Buda, YU	4	4½x6-32.4	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, HU	Y	Spicer	408
409	Day-Elder, F	3,700	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 50	N	Hartford	409
410	Denby, 27	4,250	Continental, E7	4	4½x5½-32.4	F	Monarch	P	T, Long	Y	Stromberg		M, Eisemann	N	M, Own	S, 4	Fuller, G5	N	Universal	410
411	Diamond T, K	4,825	Dia. T. Design	4	4½x5½-28.9	FS	Unit Mot.	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 4	Covert	N	Spicer	411
412	Dorris, K7	4,400	Own	4	4½x5½-28.9	F	Own	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Warner	S, 4	Warner, T53	N	Spicer	412
413	Duplex, E	4,250	Buda, TU	4	4½x5½-28.9	S	Duplex	P	T, Long	N	Schebler	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Peters	413
414	Erie		Continental	4	4½x5½-32.4		Pierce		T		Stromberg		M, Bosch			S, 4				414
415	Fageol	4,500	Waukesha, DU	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	415
416	Federal, WE	4,100	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner	N	Spicer	416
417	Garford, 77C	4,300		4	4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		417
418	Garford, 77D	4,190		4	4½x6-32.4	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		418
419	Gary, KL	4,150	Buda, YTU	4	4½x6-32.4	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	419
420	Giant, 17	4,150	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	C, Own	Y	Stromberg	G,K	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N		420
421	GMC, 71A		Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	421
422	Gramm-Bernstein, 35	4,775	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	422
423	Hall	3,750	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	423
424	Harvey, WHA	4,300	Buda	4	4½x6-32.4		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	424
425	Hendrickson	3,800	Buda	4	4½x5½-28.9		Pierce	P	T, Chicago		Stromberg		M, Dixie	N	M, Fuller	S, 4	Fuller			425
426	Hurlburt, C	4,400	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50			426
427	Indiana, 35	4,150	Own	4	4½x5½-30.6	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	427
428	International, L	4,500	Own	4	4½x5-28.9	FS	Own	T	T, Long, McC	Y	Ensign	G	M, Dixie	N	M, Own	S, 4	Brown-L	N	Own	428
429	Jackson, C1920	4,250	Continental	4	4½x5½-32.4		Pierce	P	T, Long		Stromberg		M, Eisemann		P, Borg & B	S, 4	Own		Spicer	429
430	Jumbo, 35		Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	430
431	Kalamazoo, K		Wisconsin, UAU	4	4½x6-28.9	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	431
432	Kelly-Sp'gf'ld, K40(ch'n)	4,400	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	Y	M, Eisemann	N	C	S, 3	Covert, K	N	Own	432

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TRUCK SPECIFICATIONS

5,000 (Sterling)—7,000 (Kelly-Springfield)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
362	W, Timken, 6560..	N	W	2, R	12½, 10	E, E	P.....	¼c¼c	Mather....	8, 12	48x3-54x3.....	L	Ross.....	52, 9	W, Prudden	150	36q4-36x4d.....	5,500	58, 88	362
363	W, Sheldon, W21..	Y	B	2, R	11½, 9½	E, E	P.....	¼, ¼	Sheldon....	10, 12	40x2½-50x3.....	L	Lavine...	49, 0	W.....	156	36x4-36x8.....	5,250	.....	363
364	W, Sheldon, W21..	N	B	2, R	10, 11	E, E	P.....	¼, ¼	Kalamazoo	11, 14	44x2½-50x3.....	L	Ross.....	52, 0	I, Smith....	148	36x4-36x3½d.....	4,890	40, 60	364
365	I, Clark, 2D.....	N	B	2, R	11, 14	E, C	P, Parish & B..	¼, ¼	Sheldon....	9, 11	46x2½-54x3.....	L	Wohlrab..	38, 0	W.....	156	34x4-36x4d.....	4,975	51, 78	365
366	W, Timken.....	N	B	2, R	11, 11	E, E	P.....	¼, ¼	Detroit.....	.....	44x2½-56x3.....	L	Ross.....	.....	W, Prudden	146	36x4-36x7.....	5,230	—, 75	366
367	W, Sheldon, W21..	Y	W	2, R	.....	E, E	P, Savage.....	¼, ¼	.....	.....	40x2½-52x3.....	L	Ross.....	.....	W, Schwars.	150	36x4-36x7.....	5,500	.....	367
368	I, Clark, 2D.....	Y	W, Powrlok..	2, R	13, 11	C, C	R.....	¼, ¼	Detroit.....	10, 12	42½x2½-54x3.....	L	Gemmer..	56, 0	W, Royer...	151	36x4-36x7.....	4,900	60, 80	368
369	W, Sheldon, W21..	N	B	2, R	10, 9½	E, E	P.....	¼, ¼	Sheldon....	10, 16	39x2½-52x3.....	L	Ross.....	49, 0	W.....	154	36x4-36x4d.....	5,340	50, 70	369
370	I, Russel, T.....	Y	B	2, R	13, 16	C, E	P, Own.....	¼, ¼	Mather....	8, 14	44x2½-56x3.....	L	Ross.....	.....	W, Prudden.	152	36x5-36x8.....	5,100	50, 70	370
371	I, Clark, 2D.....	.....	.....	2, R	.....	E, C	P, Detroit.....	¼, ¼	Detroit.....	.....	.....	.....	Jacox.....	.....	W.....	151	36x4-36x7.....	.....	.....	371
372	W, Sheldon.....	.....	.....	2, R	.....	E, E	R, Own.....	.....	Sheldon.....	.....	.....	L	Lavine.....	.....	W, Schwars.	144	34x4-36x4d.....	.....	.....	372
372a	W, Sheldon.....	N	.....	2, R	.....	E, E	P.....	¼, ¼	.....	.....	45x2½-55x3.....	L	Ross.....	.....	I, Smith...	148	36x4-36x8.....	.....	.....	372a
373	W, Timken.....	.....	.....	2, R	.....	E, E	.....	¾ ¾	.....	.....	.....	.....	Ross.....	.....	W.....	150	36x4-36x8.....	.....	.....	373
374	W, Timken, 6560..	N	W	2, R	12½, 9½	E, E	P, Detroit.....	¼, ¼	.....	.....	40x2½-54x3.....	L	Ross.....	.....	W.....	158	36x4-36x4d.....	5,400	—, 85	374
375	W, Empire, O....	Y	B	2, R	11, 10	E, E	P, Parish.....	¼, ¼	Sheldon.....	.....	42x2½-54x3.....	L	Gemmer..	.....	W, Crane..	156	36x4-36x7.....	.....	.....	375
375a	W, Timken, 6560.	Y	W	2, R	12, 9½	E, E	P, Parish & B..	¼, ¼	Sheldon....	8, 12	44x2½-56x3.....	L	Lavine...	52, 0	W, Bimel..	150	36x4-36x7.....	4,650	54, 78	375a
376	W, Sheldon.....	Y	W	2, R	11, 9½	E, E	P, Own.....	¼, ¼	Detroit.....	.....	40x2½-56x3.....	R	Ross.....	.....	S.....	144	36x4-36x7.....	4,500	.....	376
376a	W, Sheldon.....	Y	W	2, R	11, 9½	E, E	P, Own.....	¼, ¼	Detroit.....	.....	40x2½-56x3.....	R	Ross.....	.....	S.....	160	36x4-36x8.....	5,600	.....	376a
377	W, Wisc., 900C...	Y	B	2, R	.....	E, E	P.....	¼, ¼	Sheldon....	9, 12	40x2½-56x3.....	L	Own.....	.....	I, Smith....	150	36x4-36x3.....	5,000	25, 75	377
378	W, Timken, 6560..	Y	B	2, R	12½, 9½	E, E	R, Own.....	¼, ¼	Perfection..	11, 12	40x2½-52x3.....	L	Ross.....	.....	W, Bimel..	152	36x4-36x7.....	4,600	60, 80	378
379	I, Clark, 2D.....	Y	B	4, FR	12½, 12	C, E	R, Own.....	¼, ¼	Mather....	11, 15	40x2½-48x2½.....	L	Lavine...	62, 0	I, Own.....	150	34x5-36x6.....	4,800	30, 60	379
380	W, Sheldon.....	.....	.....	2, R	.....	E, E	P, Smith.....	.....	.....	.....	.....	.....	Lavine.....	.....	W.....	156	36x4-36x6.....	.....	.....	380
381	W, Timken.....	.....	.....	2, R	.....	E, E	P, Parish.....	.....	Delaney.....	.....	.....	L	Ross.....	.....	W, Archibald	144	36x3½-36x7.....	.....	.....	381
382	I, Own.....	.....	.....	2, F	.....	C, E	R, Own.....	.....	Spring Perch	.....	.....	R	Gemmer..	.....	W, Archibald	144	48x3½d-48x3½d.....	.....	.....	382
383	W, Timken.....	N	W	2, R	14, 12	C, E	P.....	¼, ¼	Higgins....	9, 15	40x2½-52x3½.....	L	Lavine...	48, 0	W, Bimel...	144	36x5-36x8.....	4,200	30, 75	383
384	B, Own.....	.....	.....	2, R	.....	C, C	.....	.....	.....	.....	.....	.....	Own.....	.....	.....	132	36x6-36x6.....	.....	.....	384
384a	W, Wisconsin.....	.....	.....	2, R	.....	.....	.....	.....	Own.....	.....	.....	.....	Ross.....	.....	.....	136	36x5-36x8.....	4,750	.....	384a
385	W, Sheldon.....	.....	.....	2, R	.....	E, E	R, Own.....	¼, ¼	Own.....	.....	.....	L	Ross.....	.....	I, Smith....	144	36x4-36x8.....	.....	.....	385
386	B, Own.....	Y	B	4, FR	9½, 9½	C, C	P, Parish & B..	¼,¼	Tuthill.....	11, 10	45½x2½-44x2½..	R	Ross.....	51, 0	W, Schwars.	124	36x6-36x6.....	6,400	38, 55	386
387	I, Clark, 2D.....	Y	B	2, R	10, 13½	C, E	P.....	¼, ¼	Detroit.....	9, 14	40x2½-54x3.....	L	Jacox....	45, 0	S, Clark....	152½	36x6p-42x9p.....	5,000	50, 75	387
388	W, Sheldon, W21..	Y	B	2, R	.....	E, C	P.....	¼, ¼	U. S.....	11, 13	40½x2½-50½x3..	L	Ross.....	39, 6	I, Smith.....	.....	36x4-36x10.....	.....	50, 80	388
390	W, Own.....	N	S	2, R	10½, 9½	C, E	R, Own.....	¼, ¼	.....	11, 12	42½x3-46x3.....	L	Own.....	56, 0	I.....	156	36x5-36x5d.....	7,000	52, 72	390
391	W, Own.....	N	B	2, R	12, 9	C, E	P.....	¼, ¼	.....	9, 14	42x3-54x3.....	R	Ross.....	55, 0	S.....	150	36x5-36x5d.....	6,900	62, 75	391
392	W, Sheldon.....	.....	.....	2, R	.....	.....	R, Own.....	¼, ¼	Sheldon.....	.....	.....	L	Ross.....	.....	W, Hoopes..	158½	36x5-36x5d.....	4,800	—, 62	392
393	W, Sheldon.....	.....	.....	2, R	.....	.....	R, Own.....	¼, ¼	Sheldon.....	.....	.....	L	Ross.....	.....	W, Hoopes..	170	38x7p-42x9p.....	5,580	—, 61	393
393a	W, Sheldon.....	N	W	2, R	11, 9½	E, E	P, Detroit.....	¼, ¼	Sheldon....	9, 14	42x2½-53x3.....	L	Lavine...	52, 0	W, Bimel..	155	36x5-36x5d.....	6,000	48, 67	393a
393b	W, Sheldon, W21.	Y	B	2, R	—, 9½	E, E	R.....	¼, ¼	Sheldon....	9, 12	42x2½-54x3.....	L	Lavine...	40, 0	W, Schwars	156	36x4-36x8.....	5,500	49, 70	393b
394	W, Sheldon, W21..	Y	W	2, R	10½, 9	E, E	P.....	¼, ¼	Sheldon....	10, 11	42x3-58x3½.....	L	Gemmer..	46, 2	I, Smith....	175	36x5-36x5d.....	6,000	40, 70	394
395	I, Own.....	Y	W	2, R	14, 14	C, C	P.....	¼, ¼	Perfection..	.....	48x3-52x4.....	L	Ross.....	48, 0	S, Dayton..	168	38x7p-42x9p.....	6,000	50, 75	395
396	I, Own.....	N	BS	2, R	10½, 10½	C, E	R.....	¼, ¼	.....	.....	.....	L	Own.....	61, 0	S.....	1743	6x5-40x5d.....	7,075	54, 70	396
397	W, Timken, 6652..	Y	W	2, R	11, 10	E, E	P, Savage.....	¼, ¼	Detroit.....	11, 16	40x3-50x3½.....	L	Ross.....	.....	I, Smith....	187	36x5-40x5d.....	6,600	—, 76	397
398	W, Timken, 6652..	N	B	2, R	8, 9½	E, E	P.....	¼, ¼	Detroit.....	11, 14	42x3-54x3½.....	L	Ross.....	58, 0	W, Bimel...	168	36x5-40x10.....	6,600	50, 70	398
398a	W, Sheldon, W31	N	.....	2, R	.....	E, E	R, Own.....	¼, ¼	Sheldon....	12, 17	46x3-60x3½ ...	L	Ross.....	.....	W.....	160	36x5-36x5d.....	.....	55, 75	398a
399	W, Timken.....	.....	.....	2, R	.....	C, E	P, Parish.....	.....	Tuthill.....	.....	.....	L	Ross.....	.....	S, Clark....	166	36x6-36x10.....	.....	.....	399
400	W, Timken, 1631B	N	W	2, R	10, 9	E, E	.....	¼, ¼	Mather....	8, 13	48x3-60x3.....	L	Ross.....	58, 0	W, St. Marys	156	36x5-36x5d.....	7,200	60, 80	400
401	W, Timken, 6652..	Y	B	2, R	.....	E, E	P.....	¼, ¼	Spring Perch	11, 14	41½x3-56x3½.....	R	Gemmer..	59, 10	W, Archibald	167½	36x5-40x5d.....	6,720	.....	401
402	W, Timken, 6652..	N	W	2, R	9, 10	E, E	R, Own.....	¼, ¼	Tuthill....	9, 12	42x3-54x3½.....	L	Ross.....	.....	W, Schwars.	176	36x5-40x5d.....	6,500	55, 75	402
403	I, Clark.....	N	B	2, R	11, 11	C, E	R.....	¼, ¼	Mather....	8, 12	44x3-56x3½.....	L	Lavine...	64, 0	S, Clark....	160	36x5-40x5d.....	6,800	50, 80	403
404	I, Russel, UI300..	Y	B	2, R	12½, 14½	C, E	P, Detroit.....	¼, ¼	Mather....	10, 14	44x2½-56x3½.....	L	Lavine...	55, 0	I, Smith....	164	36x5-40x5d.....	4,960	27, 90	404
405	W, Timken, 6652..	N	B	2, R	.....	E, E	P, Parish & B..	¼, ¼	Merrill.....	12, 15	44x2½-52x3½.....	L	Gemmer..	.....	I, Smith....	164	36x5-36x5d.....	6,430	60, 82	405
405a	W, Wisc., 900D...	Y	B	2, R	11½, 9	E, E	R.....	¼, ¼	SpringPerch	.....	42x3-56x3½.....	L	Ross.....	56, 0	S, Detroit..	168	36x5-36x10.....	6,400	55, 80	405a
406	W, Timken, 6660..	Y	B	2, R	9½, 8½	E, E	R, Own.....	¼, ¼	Mather....	10, 15	40x2½-54x3.....	L	Gemmer..	.....	W, Standard	168	36x5-36x10.....	6,850	60, 75	406
407	W, Timken, 6652..	N	B	2, R	14½, 10½	E, E	P, Parish & B..	¼, ¼	Perfection..	9, 13	44x3-54x3½.....	L	Ross.....	65, 0	I, Smith....	190	36x5-40x10.....	7,000	60, 78	407
408	W, Own.....	Y	B	2, R	11½, 10½	E, E	R, Savage.....	¼, ¼	Perfection..	8, 15	44x3-56x3½.....	L	Ross.....	60, 0	W, Prudden.	160	36x5-40x10.....	6,450	50, 80	408
409	W, Sheldon, W31.	Y	B	2, R	11, 9	E, E	P, Savage.....	¼, ¼	Iron City...	11, 17	42x2½-56x3.....	L	Gemmer..	59, 0	W, Jones...	165	36x5-36x5d.....	5,750	60, 70	409
410	I, Clark, 3.....	Y	B	2, R	13½, 11½	C, E	P, Detroit.....	¼, ¼	Detroit.....	8, 18	42x3-54x3½.....	L	Ross.....	56, 8	I, Smith....	170	36x5-36x10.....	6,890	56, 78	410
411	W, Timken, 6660.	Y	W	2, R	.....	E, E	P, Smith.....	¼, ¼	Mather....	8, 15	46x3-56x3.....	R	Gemmer..	.....	S.....	170	36x5-36x5d.....	7,250	50, 90	411
412	W, Timken, 6652..	Y	W	2, R	9½, 9	E, E	P, Smith.....	¼, ¼	Rowland....	9, 15	42x3-56x4.....	L	Ross.....	60, 0	I, Smith....	154	36x5-36x10.....	6,750	56, 70	412
413	I, Own.....	N	S	4, FR	15, 15	C, C	P, Parish & B..	¼, ¼	Tuthill.....	6, 8	41½x3-41½x3...	L	Wohlrab..	60, 0	W, Prudden.	130	36x8-36x8.....	3,800	40, 60	413
414	W, Timken.....	.....	.....	2, R	.....	.....	P.....	.....	.....	.....	.....	.....	.....	.....	.....	168	36x5-40x5d.....	.....	.....	414
415	W, Timken, 6652..	N	B	2, R	14½, 8½	E, E	P, Own.....	¼, ¼	Mather....	7, 13	44x3-60x3½.....	L	Ross.....	59, 8	W, Prudden.	172	36x5-36x5d.....	7,300	53, 69	415
416	W, Timken, 6660..	N	B	2, R	10, 8	E, E	P.....	¼, ¼	Mather....	8, 12	44x3-56x3½.....	L	Gemmer..	48, 10	I, Smith....	156	36x5-36x5d.....	7,000	62, 75	416
417	W, ...	N	B	2, R	.....	E, E	P.....	¼, ¼	.....	9, 14	48x3-56x3½.....	L	Ross.....	.....	W.....	128	36x5-40x5d.....	7,235	.....	417
418	W, ...	Y	B	2, R	.....	E, E	P.....	¼, ¼	.....	9, 17	42x3-56x3½.....	L	Ross.....	58, 0	I.....	162	36x5-36x5d.....	7,550	.....	418
419	W, Timken, 6652..	Y	W	2, R	9, 10½	E, E	P.....	¼, ¼	Detroit.....	10, 14	44x3-58x4.....	L	Ross.....	46, 0	W, Prudden.	162	36x5-40x5d.....	7,600	50, 20	419
420	W, Sheldon, W30.	Y	B	2, R	10, 8½	E, E	R.....	¼, ¼	Sheldon....	9, 15	44x3-60x4.....	R	Ross.....	.....	W, Wayne..	176	36x5-36x5d.....	6,000	40, 70	420
421	W, Timken, 6652..	N	B	2, R	12½, 10½	E, E	R, Own.....	¼, ¼	Detroit.....	10, 12	44x3-54x4.....	L	Jacox....	55, 0	S, Own....	163	36x5-40x5d.....	7,540	56, 75	421
422	W, Standard.....	Y	B	2, R	.....	E, E	P, Own.....	¼, ¼	Perfection..	.....	46x3-62x3½.....	L	Ross.....	61, 0	S, Smith....	156	36x5-40x5d.....	8,350	76, 91½	422
423	W, Timken, 6652..	Y	W	2, R	9, 8	E, E	R.....	¼, ¼	Detroit.....	12, 16	45x2½-54x3½.....	L	Gemmer..	.....	I, Smith....	144	36x5-36x5.....	6,825	25, 80	423
424	W, Sheldon.....	.....	.....	2, R	.....	E, E	R, Own.....	.....	Sheldon.....	.....	.....	L	Ross.....	.....	W, Schwars.	160	36x5-36x5d.....	.....	.....	424
425	W, Timken.....	.....	.....	2, R	.....	.....	.....	¼, ¼	Tuthill.....	.....	.....	.....	Ross.....	.....	W.....	160	36x5-36x5d.....	.....	.....	425
426	W, Hindley.....	.....	.....	2, R	.....	E, C	P, Savage.....	¼, ¼	Perfection..	.....	.....	.....	Ross.....	.....	W, Wayne..	156	36x5-36x5d.....	.....	.....	426
427	W, Sheldon, W31..	N	B	2, R	11½, 8½	E, E	R.....	¼, ¼	Sheldon....	9, 14	40x3-50x3½.....	L	Wohlrab..	54, 0	I, Smith....	160	36x5-36x5d.....	7,150	66, 75	427
428	I, Own.....	.....	B	2, R	.....	E, E	P.....	¼, ¼	.....	10, 14	42½x3-57½x4...	L	Own.....	.....	W.....	162	36x5-40x10.....	7,500	50, 68	428
429	B, Own.....	.....	.....	4, FR	.....	E, C	P, Castle.....	.....	Spring Perch	.....	.....	R	Ross.....	.....	W, Standard	150	36x7-36x7.....	.....	.....	429
430	I, Clark, 3D.....	Y	B	2, R	11½, 12	C, E	P.....	¼, ¼	Perfection..	11, 13	46x3-62x3½.....	L	Jacox....	62, 6	S, Clark....	165	36x5-36x10.....	6,400	50, 75	430
431	W, Sheldon, W31..	N	W	2, R	10, 9½	E, E	R.....	¼, ¼	Sheldon....	9, 14	42½x3-56x3½.....	L	Ross.....	36, 0	I, Smith....	160	36x5-36x5d.....	8 000	—, 80	431
432	C, Own.....	N	B	2, R	11½, 15½	E, E	P.....	¼, ¼	Perfection..	11, 15	46½x3-54x3.....	L	Gemmer..	56, 0	W.....	150	36x5-36x5d.....	9,285	50, 90	432

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7,000 (Kelly-Springfield)—10,000 (Diamond T) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	7,000 Pounds—Con.																			
433	Kelly-Sp'gf'ld,K41 (int.)	.....	Own	4	4½x6½-32.4	F	Pierce	P	C. Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	433
434	Kelly-Sp'gf'ld,K42(w'm)	.....	Own	4	4½x6½-32.4	F	Pierce	P	C. Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	434
435	Kissel, Heavy Duty	4,475	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	435
436	Kleiber, C	4,900	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'r'n'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	436
437	K-Z	4,200	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	437
438	Larrabee, SL	.....	Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	438
439	Maccar, M-2	4,500	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L, 50	S, 4	Brown-L, 50	N	Spicer	439
440	Mack, AC	4,950	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	440
441	Mapleleaf, CC	.....	Hinkley, HA200	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	441
441a	Master, E (int)	4,640	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	441a
442	Master, A, (worm)	4,190	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	442
443	Menominee, G	.....	Continental, E4	4	4½x5½-32.4	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	443
444	National, IA	.....	Waukesha,NU4R	4	4½x5½-32.4	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 50	N	Spicer	444
445	Nelson & LeMoon, F3½	.....	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-Lipe	S, 4	Brown-L, 50		Thermoid	445
446	Noble, E70	.....	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 4	Warner, T53			446
447	Northway, B3	4,400	Own	4	4x6-25.6	FS	Pierce	P	C, G & O	Y	Stromberg	G	B	Y	M, Fuller	S, 4	Fuller, GU6	N	Spicer	447
447a	O. K., M	4,150	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T,R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller, H			447a
448	Old Reliable, C	4,000	Wisconsin, UU	4	4½x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	448
448a	Oneida, D9	4,345		4	4½x5½-32.4	F	Own	P	C, Moline	Y	Stromberg	G	M, Bosch	N	M	S, 4		N	Spicer	448a
448b	Orleans			4	4½x6-32.4			P	T	N	Master	G	M, Eisemann	N	M	I, 4	Cotta			448b
449	Paige, 51-18		Hinkley, HA200	4	4½x5½-32.4		Simplex	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L	N	Spicer	449
450	Parker, J20	4,400	Wisconsin, VAU	4	4½x6-32.4	F	Monarch	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Warner, T53	N	Kinsler-B	450
451	Republic, 20	.....	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, Own	N	Stromberg	G	M		M, Fuller	S, 4	Fuller, GU5	N	Hartford	451
452	Reynolds, 7A	4,800	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	452
453	Royal	4,200	Wisconsin	4	4½x6-32.4		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			453
454	Sandow, M	4,395	Continental, E4	4	4½x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	454
455	Sanford, W35	4,200	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	455
456	Schacht		Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 8	Own	N	M & E	456
457	Selden, 3½A	.....	Continental, E7	4	4½x5½-32.4	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	457
458	Service, 71	4,285	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	458
459	Service, 76	4,485	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Brown-L, 60	N	Spicer	459
460	Signal, M	4,275	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	460
461	Standard, 66		Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	461
462	Sterling	4,550	Own	4	4½x6½-32.4	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	462
463	Stewart, 10	3,895	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU4	Y	Hartford	463
464	Sullivan, H	4,650	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Bush	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Spicer	464
465	Super, 70	.....	Wisconsin, UAU	4	4½x6-28.9	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	465
466	Tiffin, PW	4,175	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	S, 4	Fuller, G	Y	Peters	466
467	Titan	4,550	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, R	N	M & E	467
468	Tower, G	4,400	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Own	N		G	M	N	M, Fuller	S, 4	Fuller, G	N		468
469	Twin City	4,750	Wisconsin, JAU	4	5½x6-42.0	F	Pierce	P	C		Stromberg		K-W		M, Hele-Shaw	I, 3	Cotta			469
470	United, C	.....	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			470
471	Universal, L	.....	Buda	4	4½x5½-28.9		Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			471
472	U. S., J	3,950	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Long		Stromberg		M, Eisemann		C, Hartford	S, 4	Brown-L, 60			472
473	Victor, M	3,800	Continental, E4	4	4½x5½-32.4	FS		P	Own		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-Lipe			473
474	Walter, (Wis.), MO3		Own	4	4½x6-30.6	FS	Own	P	T, Own		Zenith		M, Swiss		C, Own	S, 4	Own			474
475	Ward LaFrance, 4A	4,490		4	4½x6½-32.4	F		P	T, Own	Y	Zenith	G	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	475
476	Watson, 18		Continental, E4	4	4½x5½-32.4	S	Pierce	P	T,R'e-T'r'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	476
477	Wichita, O	4,000	Beaver, JB	4	4½x6-28.9	F	Duplex	P	C, E & M	Y	Stromberg	G	M	N	M	I, 4	Cotta	N	Thermoid	477
478	Wilcox, D		Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		478
479	Wilson	3,950	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	479
480	Winther, 70	4,200	Wisconsin, TAU	4	4x6-25.6	F	N	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	480
	8,000 Pounds:																			
481	Bessemer, K2	4,285	Continental, E7	4	4½x5½-32.4	S	Pierce	P	C, Standard	Y	Rayfield	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	481
482	Gabriel, F	4,300	Buda, YU	4	4½x6-32.4	F	Duplex	P	T, G & O		Rayfield		M, Bosch		P, Borg & B	S, 4	Brown-L, 60			482
483	Highway-Knight, A	.....	Moline-K., W	4	4x6-25.6	F		P	T, Own	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Own	N	Thermoid	483
484	Jumbo, 40		Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	484
485	Kimball, E	4,975	Wisconsin, JU	4	5 1-10x5½-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	485
486	Moreland, 19G	4,875	Cont'l, Class B	4	4½x6-36.0	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	486
488	Packard, 4E	4,550	Own	4	4½x5½-32.4	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	488
489	Riker, BB		Own	4	4½x6-28.9	S	Own	P	T	N	Ball & Ball	G	M, Berling	N	C, Own	S, 4	Own	N	Own	489
489a	Rowe, HW	4,350	Wisconsin	4	4½x6-32.4	F	Simplex	P	Fedders		Zenith		M, Bosch			S, 4	Brown-L		Spicer	489a
490	Union, H	3,975	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	490
490a	U. S. S	.....	Hinkley, HA200	4	4½x5½-32.4	F	Hinkley	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Blood	490a
	18,000 Pounds:																			
491	Acason, M	5,850	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	C, National	Y	Stromberg	G	M, Eisemann	N	M, Detlaff, H8	I, 4	Cotta, S	Y	Blood	491
491a	Acme, E	5,150	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, T	N	Blood	491a
491b	Atterbury, 8E	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Zenith	G	B, M	Y	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	491b
492	Autoborne, 10	2,000	Continental	4	3½x5-22.5		N	P	C, Eureka		Stromberg		M, Eisemann	N	P, Borg & B	S, 3	Detroit			492
493	Available, H5	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer-Bld	493
494	A & B, 5T		Own	4	5½x3½-42.8		N	P	T, Bush		Schebler		M, Bosch		M, Brown-L	S, 4	Brown-Lipe			494
495	Bollstrom, A		Own	4	4½x5½-28.9			P	Own		Stromberg		M, Bosch		M	I, 4	Own		Own	495
496	Brockway, T	5,000	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	496
496a	Chicago, D5		Hercules	4	4½x5½-32.4	F	Simplex	P	T	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-Lipe	N	Peters	496a
497	Clydesdale, 120C	5,500	Continental, B2	4	4½x6-36.1	F	Own	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	497
498	Couple-Gear, AC	6,700	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, F'sm'nn	N	†	†, 6	Own			498
499	Day-Elder, E	4,600	Buda, YU	4	4½x6-32.4	F	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 60	N	Hartford	499
500	Denby, 210	4,900	Continental, E7	4	4½x5½-32.4	F	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Own	S, 4	Warner, T53	N	Peters	500
501	Diamond T, 8	5,900	Class B, U. S	4	4½x6-36.1	FS	Pierce	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	501

† Electric Transmission

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TRUCK SPECIFICATIONS

7,000 (Kelly-Springfield)—10,000 Diamond T)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
433	I, Clark	N	B	2, R	9½, 13½	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	433
434	W, Standard	N	B	2, R	9½, 11	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	434
435	W, Sheldon, W30	Y	W	2, R	10½, 8½	E, E	P, Smith	½, ½	Mather	11, 12	44x3-62x3½	L	Ross	50, 0	I, Smith	168	36x5-36x5d	7,200	57½, 74½	435
436	W, Timken, 6652	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 14	44x3-52x3	R	Ross		W, W't'rh'se	163	36x5-36x10	7,200	50, 75	436
437	W, Timken, 6652	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	8, 12	42x3-52x3½	L	Lavine	66, 4	S, Standard	156	36x5-40x5d	6,500		437
438	W, Sheldon, W30	Y	B	2, R	14, 9	E, E	P, Parish & B	½, ½	Merrill	10, 15	44x3-56x3½	L	Ross		W, Hoopes	160	36x5-36x5d	6,850	44, 88	438
439	W, Timken, 6652	N	B	2, R	9 9/16, 8½	E, E	P, Parish	½, ½	Merrill	9, 14	42x2½-56x3½	L	Ross		S, Dayton	174	36x5-36x5d	6,175	—, 70	439
440	C, Own	N	B	2, R	11½, 10½	C, E	P, Own	½, ½	Merrill	9, 10	46x3½-52x4	L	Own	52, 6	W, Own	Opt.	36x5-36x5d	8,070	46, 66	440
441	W, Sheldon, W31	Y	B	2, R	10, 8½	E, E	R, Own	½, ½	Sheldon	–, 15	46x3-56x4	L	Ross		W, Hayes	160	36x5-36x5d	7,000	50, 70	441
441a	I, Walker	Y	BS	2, R		C, E	P, Parish & B	½, ½	Detroit	12, 15	44x3-58x4	L	Ross	48, 0	S	158	36x5-40x5d	7,000	58, 72	441a
442	W, Timken, 6652	Y	B	2, R	11½, 10½	E, E	P, Parish & B	½, ½	Detroit	12, 15	44x3-58x4	L	Ross	48, 0	S	158	36x5-40x5d	7,000	58, 72	442
443	W, Timken, 6652	N	B	2, R		E, E	R, Own	½, ½	Tuthill	11, 11	44x2½-54x3½	L	Ross		W, Standard	160	36x5-36x5d	6,650		443
444	W, Timken, 6560	N	W	2, R	9½, 10½	E, E	R	½, ½	Mather	9, 17	46x3-58x3½	L	Ross	54, 0	W, Hayes	158	36x5-40x5d	7,000		444
445	W, Timken, 6652	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x5-36x5d			445
446	W, Sheldon, W30			2, R		E, E	P, Slick-Knox	½, ½	SpringPerch				Lavine		W, Bimel	166	36x5-36x5d	7,500		446
447	W, Sheldon, W30	Y	B	2, R	10, 10½	E, E	P, Parish & B	½, ½	Perfection	10, 12	44x3-56x4	L	Ross	50, 0	S, Clark	160	36x5-40x5d	7,300	51½, 73	447
447a	W, Wisc., 900			2, R		E, E	P, Hydraulic	½, ½	Liggett				Ross		W, Bimel	154	36x5-36x5d			447a
448	W, Sheldon, W30	Y	W	2, R	11½, 8½	E, E	R	½, ½	Sheldon	10, 16	48x3-60x4	R	Ross		W, St. Marys	160	36x5-36x5d	6,850	—, 77	448
448a	W	N	B	2, R	11, 8½	E, E	P, Detroit	½, ½	Mather	11, 12	44x3-56x3½	L	Ross		S	170	36x5-36x10	7,250	60, 85	448a
448b	W	N		2, R		E, E	R	½, ½			44x3-56x3½		Ross		I, Smith	166	36x4½-36x4d			448b
449	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	9, 14	46x3-58x4	L	Ross		S, Dayton	160	36x5-36x5d	7,000	60, 75	449
450	W, Own	N	B	2, R	14, 11	C, E	P, Smith	½, ½	Tuthill	8, 16	51x3-60x3	L	Ross	64, 0	W, Bimel	160	36x5-40x5d	6,300	55, 76½	450
451	I, Torbensen, E1	Y	W, Powrlok	2, R		C, E	P, Detroit	½, ½	Mather	8, 13	44½x3-52½x4	L	Jacox		I, Smith	165	36x5-36x10	6,400		451
452	W, Sheldon	Y	B	2, R	9½, 9½	E, E	R, Standard	½, ½	Perfection		44x3-56x3½	L	Lavine		I, Smith	156	36x5-36x5			452
453	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	158	36x5-38x5d			453
454	W, Timken, 6652	N	W	2, R	8½, 8½	E, E	P, Savage	½, ½	Garden City	9, 17	44x3-56x3½	R	Ross	40, 0	W, Standard	175	36x5 36x5d	6,650	20, 70	454
455	W, Sheldon, W30	Y	W	2, R	10½, 8½	E, E	P, Parish & B	½, ½	Perfection	9, 13	46x3-54x3½	L	Ross	50, 0	W, Hoopes	174	36x5-36x5d	6,900	76, 87	455
456	W, Own	N	B	2, R	10½, 9	C, E	R, Own	½, ½	National	9, 15	35x2½-50x3	L	Own		W, St. Marys	168	36x5-36x5d	6,500	—, 70	456
457	W, Timken, 6652	N	B	2, R	9½, 8 13/16	E, E	P, Parish & B	½, ½	Perfection	10, 14	42x3-56x3½	R	Gemmer	62, 0	S	162	36x5-36x10	7,200	60, 78	457
458	W, Timken, 6652	N	B	2, R	9½, 7½	E, E	P, Own	½, ½	Mather	11, 13	46x3-60x3½	L	Ross	52, 0	S	171	36x5-36x5d	6,950	—, 72	458
459	W, Timken, 6652	N	B	2, R	9½, 7½	E, E	P, Own	½, ½	Mather	11, 13	46x3-60x3½	L	Ross	52, 0	S	171	36x5-36x5d	7,280	—, 72	459
460	W, Timken, 6652	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	11, 16	44x3-56x3½	L	Ross	61, 0	W, Hayes	168	36x5-40x10	7,070	—, 84	460
461	W, Timken, 6660	N	B	2, R	9½, 8½	E, E	P, Parish & B	½, ½	Perfection	10, 15	45½x3-52½x3½	L	Gemmer		W	160	36x5-36x5d	6,480	57, 70	461
462	W, Timken, 6652	N	W	2, R	11½, 10½	E, E	P, W	c, c	Mather	8, 10	48x3-60x3½	L	Ross	53, 6	W, Prudden	162	36x5-40x5d	8,300	53, 92	462
463	I, Clark, 3D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	10, 14	41x2½-54x4	L	Ross	52, 0	S, Clark	165	36x5-36x5d	6,080	64½, 80½	463
464	W, Timken, 6652	N	B	2, R	9½, 8½	E, E	P	½, ½	Sheldon	9, 13	46x3-56x3½	L	Ross	58, 6	W, Wayne	170	36x5-36x5d	6,000	50, 68	464
465	W, Sheldon, W30	Y	B	2, R	12, 12½	E, E	P	½, ½	Sheldon	10, 11	44x3-58x4	L	Ross	50, 0	S	164	36x5-40x5d	7,300		465
466	W, Sheldon, W31	N	B	2, R	10, 9	E, E	R	½, ½	Kalamazoo	9, 16	42x3-52x3½	L	Ross	62, 0	I, Smith	160	36x5-40x5d	6,950	40, 60	466
467	I, Clark, 3	N	B	2, R	12, 16	E, C	P, Parish & B	½, ½	Sheldon	9, 11	48x3-60x3½	L	Lavine	50, 0	S, Dayton	156	36x5-40x5d	7,350	57, 80	467
468	W, Timken	N	B	2, R	10½, 10½	E, E	P	½, ½	Detroit		44x3-56x3½	L	Ross		W	165	36x5-36x5d	7,010	—, 70	468
469	I			4, FR				½, ½					Ross			140	36x6-36x6			469
470	I, Clark, 3D			2, R		E, C	P, Detroit	½, ½	Detroit				Lavine		S	157	36x5-36x5d			470
471	C, Own			2, R		E, E	R	½, ½	Kalamazoo				Lavine		W	156	36x5-36x5d			471
472	W, Sheldon, W30			2, R		E, E	R, Own	½, ½	Sheldon				Lavine		W, Schwars	162	36x5-40x5d			472
473	W, Timken			2, R				½, ½					Gemmer			176	36x6-36x5d			473
474	E, Own			4, FR		C, C	R, Own	½, ½					Own		S, Own	108	40x4d-40x4d			474
475	W, Timken, 6652	N	W	2, R	10½, 8 5/16	E, E	P, Detroit	½, ½			46x3-60x3½	L	Ross		I, Smith	162	36x5-36x5d	7,750	—, 85	475
476	W, Empire, 12	Y	B	2, R	12½, 6½	E, E	P, Parish	½, ½	Sheldon	11, 12	44x3-56x3½	L	Gemmer		W, Crane	168	36x5-36x10	6,950		476
477	W, Sheldon, W30	Y	W	2, R	10, 8½	E, E	P, Own	½, ½	Detroit		56x2½-56x3	R	Ross		S	165	36x5-36x5d	7,200		477
478	W, Sheldon, W30	Y	B	2, R		E, E	P	½, ½	Own	10, 12	40x2½-60x4	L	Own		I, Smith	154	36x5-36x5d	6,400	25, 75	478
479	W, Timken, 6652	Y	B	2, R	9½, 8½	E, E	R, Own	½, ½	Perfection	11, 17	46x3-60x3½	L	Ross		W	160	36x5-36x5d	6,800	60, 80	479
480	I, Clark, 3D	Y	B	2, R	11½, 12	C, E	R, Own	½, ½	Mather	8, 10	46x3-56x4	R	Ross	62, 0	S, Clark	150	36x5-36x5d	6,400	45, 80	480
481	I, Torbensen, E	N	B	2, R	11, 11	E, C	P	½, ½	Perfection	10, 12	44x3-56x3½	L	Ross		W, Schwars	175	36x5-36x10	6,700	54, 69	481
482	W, Timken, 6652			2, R		E, E	P, Parish	½, ½	Merrill				Gemmer		I, Smith	180	36x5-40x5d			482
483	W	Y		2, R	11, 10	E, E	P	½, ½	Sheldon		46x3-56x3½	L	Ross		W, Schwars	159	36x5-36x6d	7,200		483
484	I, Clark, 3D	Y	B	2, R	13½, 16½	C, E	P	½, ½	Perfection	10, 13	46x3-62x3½	L	Jacox	62, 6	S, Clark	165	38x7p-44x10p	6,800	50, 75	484
485	W, Sheldon, W30	Y	B	2, R		E, E	P	½, ½	U. S	12, 16	45½x3-53½x3½	L	Ross	39, 6	I, Smith		36x5-40x10		50, 80	485
486	W, Timken, 6652	N	W	2, R	9½, 11½	E, E	P	½, ½	U. S	9, 12	50x3-50x4	L	Ross		I, Smith	162	36x5-40x5	7,800	55, 67	486
488	W, Own	N	S	2, R	10½, 10½	C, E	R, Own	½, ½		11, 14	42½x3-46x3	L	Own	56, 0	W	156	36x5-40x5d	7,460	55, 75	488
489	W, Own	N	B	2, R	12, 9	C, E	P	½, ½		9, 17	42x3-54x3	R	Ross	55, 0	S	150	36x5-36x6d	7,200	63, 77	489
489a	W, Sheldon			2, R		E, E		½, ½	Sheldon				Ross		W, Hoopes	156	36x5-36x6d	6,370	—, 75	489a
490	I, Torbensen, E	Y	B	2, R	13, 12	C, C	P, Own	½, ½	Mather	8, 15	42x3-56x4	L	Ross		I, Smith	171	36x6-36x10		50, 70	490
490a	W, Sheldon, W31	Y	B	2, R	11½, 8½	E, E	P	½, ½	Sheldon	9, 10	44x3-56x3½	L	Lavine	60, 0	W, Schwars	168	36x5-36x10	7,600	51, 70	490a
491	W, Timken, 6752	Y	W	2, R	11, 10	E, E	P, Savage	½, ½	Detroit	12, 18	40x3-50x4	L	Ross		I, Smith	187	36x6-40x6d	8,350	—, 77	491
491a	W, Timken, 6760	N	B	2, R	9, 9½	E, E	P	½, ½	Detroit	11, 17	44x3-56x4	L	Ross	64, 0	I, Smith	180	36x6-40x12	8,800	50, 70	491a
491b	W, Timken, 6752	N	B	2, R		E, E	P	½, ½	Spring Perch	10, 12	41½x3-54x4	L	Gemmer	59, 10	S, Dayton	167½	36x5-40x6	9,350		491b
492	I, Own			1, F		C, E	R, Own		Champion				Own		W, Bimel	43	34x10			492
493	W, Timken, 6752	N	W	2 R	9, 10	E, E	R, Own	½, ½	Tuthill	9, 15	44x3-60x4	L	Ross		I, Smith	190	36x6-40x12	9,500	55, 75	493
494	I, Own			2, R		C, C	R, Own	½, ½	Perfection				Gemmer		W	144	48x3½d-48x5d			494
495	I, Own			2, R		C, C	R, Own					L	Gemmer		S, Clark	144	36x6-36x6			495
496	W, Timken, 6752	N	B	2, R		E, E	P, Parish & B	½, ½	Merrill	12, 17	44x3-58x4	L	Gemmer		I, Smith	174	36x6-40x6d	9,075	60, 90	496
496a	W, Timken, 6752	Y	B	2, R	9, 10	E, E	R	½, ½			44x3-56x4	L	Gemmer	42, 0	Optional	167	36x6-40x12	8,110	56, 80	496a
497	W, Timken, 6752	N	B	2, R	13½, 9½	E, E	P, Parish & B	½, ½	Perfection	11, 18	44x3-56x4	L	Ross		I, Smith	204	36x6-40x12	9,100	65, 76	497
498	B, Own	N		4, FR	11, 11	E, E	R	½, ½	Tuthill	12, 12	43x3-43x3	R	Own	36, 0	S, Own	144	36x5-36x5	11,000	50, 50	498
499	W, Sheldon, W51	Y	B	2, R	10½, 10½	E, E	P, Savage	½, ½	Iron City	12, 13	48x3-60x4	L	Gemmer	54, 0	I, Smith	150	36x5-40x6d	8,250	60, 70	499
500	I, Clark, W100	Y	B	2, R	13½, 13½	E, E	P, Detroit	½, ½	Detroit	10, 18	42x3-54x4	L	Ross	62, 0	S, Russell	170	36x6-40x12	8,590	58, 80	500
501	W, Timken, 6760	Y	W	2, R		E, E	P, Smith	½, ½	Mather	10, 14	46x3-56x4	L	Gemmer		S	180	36x6-40x6d	8,790	50, 90	501

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10,000 (Diamond T)—15,000 INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	10,000 Pounds—Con.																			
501a	Diamond T, EL	5,675		4	4½x5½-32.4	FS		P	T, G & O	N	Stromberg	G	M, Bosch	N	M	S, 4			Spicer	501a
502	Fageol	5,300	Waukesha, DU	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	502
503	Federal, XE	4 750	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner	N	Spicer	503
504	Garford, 68	5,000		4	4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		504
505	Gary, M	5,150	Buda, BTU	4	5x6½-40.0	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	505
506	GMC, 101A		Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	506
507	Gramm-Bernstein, 50	5,875	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	507
508	Hall (chain)	4,850	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	508
509	Hall (worm)	4,850	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	509
510	Harvey, WKA	5,200	Buda	4	4½x6-32.4	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe			510
511	Highway-Knight, B		Moline-K., W	4	4x6-25.6	F		P	T, Own	N	Zenith	G	M, Eisemann	Y	M, Brown-L	S, 4	Own	N	Thermoid	511
512	Hurlburt, D	5,250	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60			512
513	Indiana, 50	5,075	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	513
514	Kelly-Springfield, K50	5,150	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	514
515	Kimball, F	5,975	Wisconsin, JAU	4	5½x6-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	515
516	Kissel, Goliath	5,085	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	516
517	Kleiber, D	5,600	Continental, T	4	5½x5½-44.1	S	Pierce	P	T, R'e-T'rn'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	517
517a	Koehler, MT	3,450	Hercules	4	4 x5½-25.6						Zenith	G	M, Eisemann		P	S, 3				517a
518	Larrabee, T		Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	518
519	Mack, AC	5,500	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	519
520	Maplelcaf, DD		Hinkley, HA1600	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, H	N	Blood	520
520a	Master, F (int)	5,540	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	520a
521	Master, B (worm)	5,290	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	521
522	Menominee, J		Wisconsin, A	4	4½x5½-36.1	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	522
523	Moreland, 19J	5,350	Cont'l, Class B	4	4½x6-36.1	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	523
524	National, JA		Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 60	N	Spicer	524
525	Nelson & LeMoon, F5		Continental, B2	4	4½x6-36.1	F	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Thermoid	525
526	Old Reliable, D	5,000	Wisconsin, J	4	5 1–10x5½-42.0	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, SD60	Y	Spicer	526
526a	Oneida, E9	5,460		4	4½x5½-32.4	F	Own	P	C, Modine	Y	Stromberg	G	M, Bosch	N	M	I, 4		N	Spicer	526a
527	Packard, 5E	5,450	Own	4	5x5½-40.0	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	527
528	Parker, M20	5,500	Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Warner, T53-1	N	Kinsler-B	528
530	Pierce-Arrow, R9	5,500	Own	4	4½x6-38.2	F	Own	P	T, Own	N	Stromberg	G	M, Splitdorf	N	C, Own	S, 3	Own	Y	Own	530
531	Reynolds, 10A	5,800	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	531
532	Rowe, FW	5,390	Wisconsin, AU	4	4½x6-32.4	F	Simplex	P	C, Fedders		Zenith		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Spicer	532
533	Royal	5,000	Wisconsin	4	4½x5½-36.1		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			533
534	Sandow, L	5,175	Continental, E4	4	4½x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	534
535	Sanford, W50	5,100	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	535
536	Schacht		Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 8	Own	N	M & E	536
537	Schwartz, D	4,500	Buda, YTU	4	4½x6-32.4	F	Simplex	P	C, Fedders	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	537
538	Selden, 5A		Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Detlaff	S, 4	Savage, SD60	Y	Spicer	538
539	Service, 101	5,275	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	539
540	Signal, R	5,300	Continental, B2	4	4½x6-361	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	540
541	Standard, 86		Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	541
542	Sterling (chain)	5,600	Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	542
543	Sterling, (worm)	5,350	Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	543
544	Super, 100		Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Hilliard	S, 4	Savage, SD60	Y	Spicer	544
545	Tiffin, TW	5,250	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	Y	Peters	545
546	Titan	5,400	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	N	M & E	546
547	United, V		Buda, YU		4½x6-32.4	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60			547
548	U. S., K	4,850	Waukesha, P	4	4½x6½-36.1	F	Waukesha	P	T, Long		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-L, 60			548
549	Walter, (N. Y.), S	5,500	Waukesha, DU	4	4½x6½-32.4	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Warner, T53		M & E	549
550	Ward LaFrance, 5A	5,490		4	5x6½-40.0	F		P	T, Own	Y	Zenith	G	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	550
551	White, 45	5,000	Own	4	4½x5½-28.9	F	Own	P	T, Own	N	Own	G	M		P, Own	S, 4	Own	N	Own	551
551a	Wichita, S	5,000	Beaver, JA	4	4½x6-32.4	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	S, 4	Own	N	Thermoid	551a
552	Wilcox, W		Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		552
553	Wilson	4,800	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	553
554	Winther, 109	5,250	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	554
	11,000 Pounds:																			
554a	Aetna	5,375	Wisc., RBU	4	5 x6-40.0	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, T	N	Spicer	554a
555	Maccar, G-1	5,500	Wisc., RBU	4	5x6-40.0	F	Pierce	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Brown-L, 60	S, 4	Brown-L, 60	N	Spicer	555
	12,000 Pounds:																			
556	Doane	5,350	Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, Own		Master		M, Bosch		M, Brown-L	S, 3				556
557	Kelly-Springfield, K60	5,500	Own	4	4½x-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	557
558	Packard, 6E	5,700	Own	4	5x5½-40.0	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	558
559	Royal	5,400	Wisconsin	4	5½x6-42.0		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			559
560	Tiffin, UW	5,450	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	Y	Peters	560
561	United, T		Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Muncie, 63			561
561a	U. S. T		Buda, ATU	4	4½x6½-36.1	F	Simplex	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 60	N	Blood	561a
	13,000 Pounds																			
563	Mack, AC	$5,750	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	563
	14,000 Pounds:																			
563a	Available, H7	6,000	Waukesha	4	5x6½-40.0	FS	Waukesha	P	T, Chicago	Y	Stromberg	G	BM, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	563a
564	Couple-Gear, LDC	7,350	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, F'sm'nn	N	†	† 6	Own		Own	564
565	Larrabee, W		Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	565
566	Old Reliable, K	6,000	Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, 6495	Y	Hartford	566
567	Royal	6,500	Wisconsin	4	5½x7-44.2		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			567
568	Winther, 140	5,900	Wisconsin, RBU	4	5 x6-40.0	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	568
	15,500 Pounds:																			
569	Mack, AC	6,000	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	569
570	Sterling	6,000	Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	570

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TRUCK SPECIFICATIONS

10,000 (Diamond T)—15,000

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
501a	W, Timken	Y	W	2, R		E, E	P	½, ½	Mather	10, 14	46x3-56x4	L	Gemmer		S	180	36x6-40x6d	8,790	50,90	501a
502	W, Timken, 6752	N	B	2, R	14½, 10½	E, E	P, Own	½, ½	Mather	9, 16	46x3-60x4	L	Ross	59, 8	W, Prudden	172	36x6-40x6d	8,300	56, 78	502
503	W, Timken, 6760	N	B	2, R	9, 10	E, E	R	½, ½	Mather	8, 16	44x3-56x3½	L	Gemmer	57, 0	I, Smith	156	36x6-40x6d	8,100	65, 78	503
504	C	N	B	2, R		C, E	P	½, ½		10, 17	48x3-50x3	R	Ross		I, Smith	128	36x6-40x6d	8,870		504
505	W, Timken, 6752	Y	W	2, R	9, 10½	E, E	P	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	52, 0	S, Dayton	182	36x6-40x6d	8,500	50, 20	505
506	W, Timken, 6752	N	B	2, R	11½, 10	E, E	R, Own	½, ½	Detroit	10, 16	44x3-54x4	L	Jacox	55, 0	S, Own	163	36x6-40x6d	8,485	56, 75	506
507	W, Standard	Y	B	2, R	12½, 10½	E, E	P, Own	½, ½	Perfection	10, 16	48x3½-64x4	L	Ross	62, 0	I, Smith	168	36x6-40x6d	9,850	76½, 92½	507
508	C, Timken, 4800	Y	W	2, R	8, 16	E, E	R	½, ½	Detroit	12, 18	45x3-52x3½	L	Gemmer		I, Smith	144	36x5-40x6	7,530	25, 80	508
509	W, Timken, 6752	Y	W	2, R	8, 9	E, E	R	½, ½	Perfection	12, 18	45x3-52x4	L	Gemmer		I, Smith	144	36x5-40x6	8,400	25, 80	509
510	W, Sheldon			2, R		E, E	R, Own	½, ½	Sheldon			L	Ross		I, Smith	160	36x6-40x6d			510
511	W	Y		, R	11, 10½	E, E	P	½, ½	Sheldon		46x3-58x4	L	Ross		W, Schwars	159	36x5-40x6d	8,400		511
512	W, Hindley			2, R		E, C	P, Savage	½, ½	Perfection				Ross		W, Wayne	170	36x5-40x6d			512
513	W, Sheldon, W51	N	B	2, R	9½, 10½	E, E	R, Illinois	F, ½	Sheldon	10, 15	40x3-50x4	L	Wohlrab	56, 0	I, Smith	167	36x5-40x6d	9,000	66½, 78½	513
514	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	11, 14	46½x3-56½x3½	L	Gemmer	56, 0	W	150	36x6-40x6d	9,175	50, 90	514
515	W, Sheldon, W50	Y	B	2, R		E, E	P	½, ½	U. S	12, 16	45½x3-53½x4	L	Ross	39, 6	I, Smith		36x6-40x12		50, 80	515
516	W, Sheldon, W30	Y	W	2, R	10, 8	E, E	P, Smith	½, ½	Mather	11, 13	44x3-62x3½	L	Ross	50, 0	I, Smith	180	36x6-36x6d	7,900	57½, 74½	516
517	W, Timken, 6752	N	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	11, 15	50x3-52x4	R	Ross		I, Smith	180	36x6-40x6d	9,200	50, 75	517
517a	W, Timken	Y		2, R				½, ½								142	36x4-36x7			517a
518	W, Sheldon, W50	Y	B	2, R	14, 10½	E, E	P, Savage	½, ½	Merrill	12, 17	44x3-58x4	L	Ross		I, Smith	178	36x6-40x6d	8,500	40, 84	518
519	C, Own	N	B	2, R	11½, 10½	C, E	P, Own	½, ½	Merrill	9, 13	46x3½-52x4	L	Own	52, 6	W, Own	Opt.	36x6-40x6d	8,650	48, 90	519
520	W, Sheldon, W51	Y	B	2, R	10½, 10½	E, E	R, Own	½, ½	Sheldon	–, 13	46x3-56x4	L	Ross		I, Smith	160	36x6-40x6d	8,600	60, 70	520
520a	I, Walker	Y	BS	2, R		E, E	P, Parish & B	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	50, 0	I, Smith	170	36x6-40x6d	8,000	58, 72	520a
521	W, Timken, 6752	Y	B	2, R	11, 11½	E, E	P, Parish & B	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	50, 0	I, Smith	170	36x6-40x6d	8,000	58, 72	521
522	W, Timken, 6752	N	B	2, R		E, E	R, Own	½, ½	Tuthill	9, 12	44x3-54x4	L	Ross		W, Standard	160	36x6-40x6d	8,500		522
523	W, Timken, 6752	N	W	2, R	9, 10	E, E	P	½, ½	U. S	12, 14		L	Ross		I, Smith	162	36x6-40x6	9,400	55, 67	523
524	W, Timken, 6760	N	W	2, R	9, 10½	E, E	R	½, ½	Mather	11, 19	44x3½-60x4	L	Ross	56, 0	W, Hayes	170	36x6-40x6d	8,650		524
525	W, Timken, 6752	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x6-40x6d			525
526	W, Sheldon, W50	Y	W	2, R	10½, 10½	E, E	R	½, ½	Sheldon	10, 16	48x3-60x4	R	Ross		W, St. Marys	168	36x6-40x6d	8,400	—, 70	526
526a	W	N	B	2, R	11½, 10½	E, E	P, Detroit	½, ½	Mather	11, 12	44x3-60x4	L			S	180	36x6-40x12	9,000	60, 85	526a
527	W, Own	N	S	2, R	11½, 9½	C, E	R, Own	½, ½		12, 13	42½x3-54x3½	L	Ross	62, 0	S	156	36x6-40x6d	8,650	57, 76	527
528	W, Own	N	B	2, R	14½, 11	C, E	P, Smith	½, ½	Tuthill	8, 14	44x3-60x4	L	Ross	60, 0	I, Smith	160	36x6-40x6d	8,000	58½, 78	528
530	W, Own	N	S	2, R	12, 10½	C, E	P, Parish	½, ½	Spring Perch	11, 16	33x2½-48x3	R	Own	50, 6	W, Own	168	36x5-40x6d	8,450	—, 75	530
531	W, Sheldon	Y	B	2, R	9½, 10½	E, E	R, Standard	½, ½	Perfection		44x3-56x4	L	Lavine		I, Smith	176	36x6-40x6			531
532	W, Sheldon, W50			2, R		E, E	R, Own	½, ½	Sheldon				Ross		W, Hoopes	169	36x6-40x6d	8,240	—, 66	532
533	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x6-40x6d			533
534	W, Timken, 6752	N	W	2, R	8½, 8	E, E	P, Savage	½, ½	Garden City	10, 20	44x3-56x3½	R	Ross	41, 0	W, Standard	175	36x6-40x6d	7,950	20, 70	534
535	W, Sheldon, W50	Y	W	2, R	10½, 10½	E, E	P, Parish & B	½, ½	Perfection	10, 13	46x3-54x3½	L	Ross	58, 0	I, Smith	174	36x6-40x6d	8,070	75, 81	535
536	W, Own	N	B	2, R	10, 9	C, E	R, Own	½, ½	National	9, 17	35x3-50x3	L	Own		W, St. Marys	168	36x5-40x6d	8,500	—, 70	536
537	I, Torbensen, EI	Y	B	2, R	9½, 11½	E, C	P, Parish	½, ½	Rowland	10, 15	40x3-56x4	L	Ross		I, Smith	170	36x6-36x10	7,600		537
538	W, Timken, 6752	N	B	2, R	–, 10½	E, E	P, Parish & B	½, ½	Spring Perch	11, 15	46x3½-60x4	L	Gemmer	62, 0	S	164	36x6-40x12	9,800	57, 76	538
539	W, Timken, 6752	N	B	2, R	9, 10½	E, E	P, Own	½, ½	Mather	12, 15	46x3-60x3½	L	Ross	56, 0	S	171½	36x6-40x6d	8,760	—, 75	539
540	W, Timken 6752	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	11, 18	44x3-56x5	L	Ross	71, 0	I, Smith	180	36x6-40x12	9,510	—, 84	540
541	W, Timken, 6760	N	B	2, R	9, 10	E, E	P, Parish & B	½, ½	Perfection		45½x3-52½x4	L	Gemmer		S, Dayton	160	36x6-40x6d	8,100	64, 75	541
542	C, Own	N	S	2, R	11½, —	E, C	P	½c, ½c	Mather	10, 12	48x3-60x4	L	Ross	47, 9	I, Smith	174	36x6-40x6d	10,000	54, 91	542
543	W, Timken, 6752	N	W	2, R	11½, 10½	E, E	P	½c, ½c	Mather	10, 12	48x3-60x4	L	Ross	47, 2	W, Prudden	168	36x6-40x6d	9,700	53, 92	543
544	W, Sheldon, W51	N	B	2, R	11½, 12	E, E	P	½, ½	Sheldon	11, 13	44x3-58x4	L	Ross	50, 0	S	164	36x5-40x6d	8,500		544
545	W, Sheldon, W51	N	B	2, R	9, 10	E, E	R	½, ½	Kalamazoo	10 16	42x3½-53x4	L	Ross	69, 0	I, Smith	168	36x6-40x6d	8,000	40, 60	545
546	I, Clark, 5	N	B	2, R	12, 16	E, C	P, Parish & B	½, ½	Sheldon	9, 13	48x3-60x3½	L	Lavine	50, 0	S, Clark	156	36x5-40x6d	9,100	57, 80	546
547	I, Clark, 5D			2, R		E, C	P, Detroit	½, ½	Detroit				Ross		S	160	36x5-40x6d			547
548	W, Sheldon, W50			2, R		E, E	R, Own	½, ½	Sheldon				Lavine		S, Dayton	168	36x5-40x6d			548
549	I, Own	Y	W	2, R	14, 14	C, C	P	½, ½	Perfection		48x3-52x5	L	Ross	48, 0	S, Dayton	168	36x6-40x6d	8,000	50, 80	549
550	W, Timken, 6752	N	W	2, R	9½, 10⅝	E, E	P, Detroit	½, ½			50x3-60x4	L	Ross		I, Smith	190	36x6-40x6d	9,300	—, 85	550
551	I, Own	N	BS	2, R	10½, 10½	C, E	R	½, ½				L	Own	61, 0	S	174	36x6-40x6d	7,925	54, 70	551
551a	SB, Own	Y	BS	2, R	10½, 9	E, E	P, Own	½, ½	Detroit		51x3½-62x5	R	Ross		S	165	36x6-40x6d	9,200		551a
552	W, Sheldon, W50	N	B	2, R		E, E	P	½, ½	Sheldon	12, 13	48x3½-62x5	L	Own		I, Smith	162	36x5-40x6d	9,100	25, 75	552
553	W, Timken, 6752	Y	B	2, R	9, 10½	E, E	R, Own	½, ½	Perfection	11, 17	46x3-60x4	L	Ross		W	160	36x6-40x6d	7,500	60, 80	553
554	I, Clark, 5D	Y	B	2, R	11, 14	E, E	R, Own	½, ½	Mather	8, 12	46x3-56x4	R	Ross	68, 0	S, Clark	162	36x5-40x6d	8,600	45, 80	554
554a	W, Sheldon, W51	N		2, R		E, E	R, Own	½, ½	Sheldon	12, 18	46x3½-60x4	L	Ross		W	168	36x6-40x6d		55, 75	554a
555	W, Timken, 6752	N	B	2, R	9, 10½	E, E	P, Parish	½, ½	Merrill	11, 15	42x2½-56x4	L	Ross		S, Dayton	186	36x5-40x6d	8,750	—, 70	555
556	C, Own			2, R			R	½, ½					Lavine		S, West	178	36x6-40x6d			556
557	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	12, 15	48½x3-56½x3½	L	Gemmer	56, 0	W	150	36x6-40x7d	9,500	50, 90	557
558	W, Own	N	S	2, R	11½, 9½	C, E	R	½, ½		12, 14	42½x3-54x3½	L	Ross	62, 0	S	156	36x6-40x7d	8,925	58, 78	558
559	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x6-40x6d			559
560	W, Sheldon, W51	N	B	2, R	9, 10	E, E	R	½, ½	Kalamazoo	10, 18	42x3½-52x4	L	Ross	34, 6	I, Smith	168	36x6-40x12	9,000	40, 60	560
561	I, Torbensen, C			2, R		E, C	R, Detroit	½, C	Detroit				Jacox		S		34x3½-34x7			561
561a	W, Sheldon, W51	Y	B	2, R	11½, 10½	C, E	P	½, ½	Sheldon	11, 16	46x3-60x4	L	Lavine	65, 0	I, Smith	172	36x6-40x12	9,725	55, 75	561a
563	C, Own	N	B	2, R	11½, 10½	C, E	P	½, ½	Merrill	9, 17	46x3½-52x4	L	Own	52, 6	W	Opt.	36x6-40x12	8,672		563
563a	W, Savage	N		2, R		E, E	R, Own	½, ½	Tuthill		44x3-60x4	L	Ross		I, Smith	190	36x6-40x14	10,300		563a
564	B, Own	N		4, FR	11, 11	E, E	R	½, ½	Tuthill	14, 14	50x3½-50x3½	R	Own	36, 0	S, Own	144	36x6-36x6	12,500	50, 50	564
565	W, Sheldon, W51	Y	B	2, R	10, 10	E, E	P	½, ½	Merrill	12, 17	44x3-58x4	L	Ross		I, Smith		36x6-40x12	8,960	42, 86	565
566	C, Sheldon, RA70	N	B	2, R	9⅞, 17	C, E	R	½, ½	Sheldon	11, 13	51½x3½-59½x3½	R	Ross		W, St. Marys	124	36x6-40x7d	10,240	—, 85	566
567	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x7-40x7d			567
568	I, Clark, 5D	Y	B	2, R	11, 14	E, E	R, Own	½, ½	Mather	13, 16	46x3-56x4	R	Ross	68, 0	S, Clark	162	36x6-40x7d	9,500	45, 80	568
569	C, Own	N	B	2, R	11½, 10½	C, E	P, Own	½c, ½c	Merrill	9, 17	46x3½-52x4	L	Own	52, 6	W, Own	Opt.		9,050	50, 72	569
570	C, Own	N	S	2, R	11½, —	E, C	P	½c, ½c	Mather	10, 14	48x4-60x4	L	Ross	47, 9	H, Smith	174	36x7-40x7d	11,000	66, 91	570

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Proves Trucks Essential

(Continued from page 29)

watches this feature closely and finds that when oil is not spared that trouble reaches the minimum point. The new generation of boys, are absorbing the knowledge of handling motor vehicles, just as the preceding did, in assimilating horse lore. They take to a motor truck naturally. It is required that speed be kept down to a reasonable point, 16 miles per hour for the larger machines and 12 miles for the smaller.

The advantage of motor trucks over horses in the ice business is also manifested in many other ways. During the winter season when the ice business declines, the trucks can be stored, if not in other use, and their expense ceases. With horses, they must be fed and cared for just the same as in summer. Of late, with the great increase in the cost of feed and labor, this is an important item. The disagreeable feature of a barn for the equines, is also eliminated and the escape from the flies and odors that were formerly so annoying, is also a big factor in favor of the trucks. While it is admitted by President Fifer that there is depreciation in the value of motor trucks, there is just as much depreciation in horses. When forty of the equines were maintained, there was a certain number of deaths each year and this with the wearing out of the animals, balanced in depreciation, that of the motor trucks.

Summing up, President Fifer, declares that the arguments in favor of motor trucks for the ice business are so overwhelming that it would be unwise for any firm to hesitate.

Brooklyn Coal Dealer Delivers Retail Orders for $1 Per Ton

"The big advantage of a motor truck is that it brings the out-lying sections of the city closer to our coal yards," says Ed. T. Dalzell, president of Greason, Son & Dalzell, retail coal dealers of Brooklyn, New York.

"Our Selden truck is used for delivering coal to residences, factories, stores and office buildings, most deliveries being to retail trade, and this delivery has heretofore been considered most economical by teams. However, including all items of expense, this motor truck has been delivering coal for $1.00 a ton.

"The motor truck actually covers twice the radius of a team, and does the total work of 2½ teams. For instance during one month recently, this machine made 91 trips, traveled 684 miles, and delivered 526½ tons of coal. During that same month our teams averaged but 325 tons. This average shows that the motor truck delivered 61⅝ per centum more coal, in spite of the fact that this tonnage was hauled twice as far as the horses travelled.

"We load our motor trucks from overhead hoppers and can load our 6-ton machines in seven minutes. Every morning the motor trucks are weighed so that we will have actual empty weight each day to subtract from loaded weight. This empty weight varies from time to time and we want to give our customers exact weight."

Would Burden' Bus Lines With Tax and Insurance

MAYOR THREATENS TO STOP FAY'S CARS

Thomas J. Fay of Rockford, Illinois, whose extensive operations in the way of motor 'buses in that city and vicinity and who has built up a large business in the transportation of passengers, express and freight, has attracted nation-wide attention, feels that his enterprise is appreciated to a greater extent abroad than at home.

The city council of Rockford has assessed a wheel tax of $11.00 per annum upon his motor vehicles and now insists that he take out a $10,000 liability insurance policy. Fay has flatly declined to do this. He maintains that this is an unnecessary hardship. After a battle with the street railway lines, he was able to obtain a certificate of necessity and convenience from the State Board of Public Utilities and believed that his troubles were over.

The city council now seeks to add to his financial burdens and Fay has been aroused to a fighting mood. He avers that the council does not seem to appreciate the value of his vehicles. He reaches suburban districts that are not protected by the street railway lines, enabling workingmen to go from their homes to their places of business or workshop, at a low cost of transportation and at a rapid rate. To shut off this service, he says, would result in a great hardship upon such people. Fay points out the fact that the street railway line is not required to carry such liability insurance and can not see the justice of making him do so. On the other hand, Mayor Rew threatens to stop the operation of the 'buses until the insurance is ordered. A temporary truce has been agreed to and in the meantime, both sides are preparing for a court battle.

Uncle Sam's Convoy Has Four-fold Mission in Across-Country Tour

A four-fold mission has been announced for the government's convoy of 65 motor vehicles which left Washington June 14 on a transcontinental trip over the Bankhead Highway. This mission is:

To demonstrate the practicability of the motor truck as an efficient aid to the railroads.

To obtain data on equipment, highway and bridge construction, and topography, for military purposes.

To stress the need of well constructed and maintained transcontinental highways, for both commercial and war-time uses.

To encourage army recruiting.

The convoy is scheduled to reach Los Angeles on September 17. Colonel John J. Franklin, Jr., is in command. Accompanying him as official war department observers are twenty officers. Operating personnel consists of 13 officers and 150 enlisted men.

Vehicles making up the train are:

Motor Transport Company—1 Dodge touring car, 1 Dodge delivery truck, 5 White 1½-ton cargo, 3 White 1½-ton cargo, 8 Garford 1½-ton cargo, 8 Packard 1½-ton cargo, 4 Standardized "B" cargo trucks, 2 FWD cargo, 1 kitchen trailer, and 2 motorcycles—solos.

Service Park Unit—1 Dodge touring car, 2 White 1½-ton machine ship trucks, 1 Dodge light delivery truck, 2 White 1½-ton cargo trucks and 1 Cleveland tractor.

For headquarters Motor Command—2 Cadillac touring cars, 3 Dodge touring cars, 2 White staff observation cars, 1 GMC ambulance and 4 motorcycles—solos.

Government Finds 650 Short-Line Railways to Be Uneconomic Units

WASHINGTON, D. C., July 22.—Continuation of the congestion of American railroad traffic and the serious consequences of the freight jam, with no prospect of early relief, has moved the agencies of the government, in co-operation with the motor truck committee of the National Automobile Chamber of Commerce to undertake the compilation of the most complete statistics yet assembled with respect to the so-called "short line" railroads of the country and their traffic. The object of the survey is, of course, to determine the feasibility of relieving the strain upon the railroads by the diversion of as much as possible of the short haul business to motor trucks. Especially is the current investigation calculated to make inventory of the valuable service that the motor truck is just now performing in relieving the congestion at railroad terminals—admittedly one of the most serious problems of the entire transportation situation.

According to figures compiled by governmental agencies there are in the country 650 so-called short-line railroads, that is railroads not exceeding a length of 100 miles. These roads have a total mileage of 16,000 miles. Four hundred and seventeen of them are each less than 25 miles in length and about 160 of these roads have each a length of less than 10 miles. These figures will indicate what a large proportion of the short lines should, without question, be wholly displaced by motor truck service.

Farmers' Co-operative Buying

At first blush, there might appear to be little to interest motor truck tradesmen in the announcement that a determined effort will be made to drive through congress at its next session legislation conferring, upon farmers, new priveleges in collective bargaining. As a matter of fact, though, this is a carefully-planned move in the direction of co-operation on the part of farmers and every extension of co-operative organization in rural industry has significance for the commercial motor vehicle trade because that carries with it the idea of co-operative hauling as a means of marketing crops.

Three New Firestone Branches

Three new Firestone branches—which are located at Duluth, Minnesota, Portland, Maine, and Denver—bring the total number of branches in the United States up to sixty-five. These branches, according to the announcement, serve more than 47,000 dealers. The company's sales forecast for 1920 places the value of its production for the year at one hundred and fifty million dollars.

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Horse's Work Value—To Whom?

By FORMER CHIEF CLERK
United States Department of Agriculture

KERPLUNK! Old Gray struck the ground so hard that all the other horses in the feed lot were startled and came running to his side to find out what was the matter. Old Gray lay moaning with his eyes closed and was quite evidently suffering severely. The other horses whinnied their inquiry as to what had happened.

"He was all right just a moment ago," ventured the bay mare. "I noticed him standing here eating when that piece of paper blew in front of him. He stopped and watched the paper, and I paid no more attention until I heard him fall."

Old Gray slowly opened his eyes and seeing the other horses gathered around, plainly worried as to his condition, began an explanation.

"I couldn't help it, folks," he said with an effort. "I just had an awful blow. You see that piece of paper lying there. Well, the man who had that printed is trying to vitiate all the progress which we horses have made in the past hundred years toward freeing ourselves from our terrible slavery. But that's not the worst of it. He is one who has always pretended to be our friend. Now he not only shows himself to be our worst enemy, but it is plain that his pretended love for us has really been love for the money we made for him, and just when we are about to be emancipated he betrays us for a little more money which will be earned by our sweat and blood."

"Why, who is the man and what is he trying to do?" inquired one of the horses.

"IT is that man you often see around the yards here," explained old Gray. "He has been secretary of one of the large horse breeding associations, and I had always thought he was trying to better the lot of us poor horses, but he has given up his old job and is now devoting all his energies to preventing work horses from being relieved of their life of drudgery by unfeeling machines. For this work I understand that the men who buy and sell us and who manufacture and sell harness, blankets, shoes, and other things which we use, pay him a good deal more money than he used to get. And now he spends all his time persuading other men not to substitute machines for us, but to keep us in our same old bondage in which we have suffered for generations.

"That might not be so bad if it were not for the methods he uses in trying to mislead other men as to the advantages they will gain from keeping us as slaves. Really, the things which he says in that paper lying there are so exasperatingly ridiculous and utterly atrocious and have been written for such an underhanded purpose that it simply makes my blood boil. A man of his experience and position must know that many of the things which he says there are not true. He ought to be ashamed of even the headline on that sheet. Instead of heading it 'The Economic Relation of the Horse to Our National Life,' he would have been more truthful if he had written 'The Economic Relation of the Horse to the Financial Well-being of Myself and the Men Who Are Hiring Me.' "

"Well, will other men believe him when he talks such nonsense?" queried the dappled drafter. "Is there any real need of us worrying about what he says?"

"LOTS of them won't, but some of them probably will," replied old Gray, "for there are plenty of men who do not have much reasoning power, not what we would call horse sense. For example, take the man who wrote that paper and who has been associated with horses all his life; why, the arguments he puts in there are far from being horse sense, any of you can see that. For instance, he says that horses should be retained for farm work, as then hundreds of thousands of workers who are now living in cities and making motor trucks, tractors, and other factory-made articles would return to the farm, and that it would be better for the nation to have more farm families. He pretends that it is undesirable for the nation to have fewer but more efficient farmers and that as many people as possible should live in modern homes on farms.

"Why, how can the country have modern farm homes if the workers are taken from the factories? A modern farm home is one which has a hot and cold water system, electric lights, a steam or hot water heating plant, electric washing machine, vacuum cleaner, and hundreds of other machines which save work and allow the men and women to enjoy life on the farm. Yet if all the people from the factories, or even a large percentage of them, went back to the farms, there would be no such conveniences, because they are all made in factories.

"Farmers do not make their windmills or gasoline engines to pump water; they do not even make their own pumps nor the pipes through which the water flows, nor the electric lighting plants, wiring, fixtures, motors, or other machines. These are all made in the factories by the men and women who are not needed to raise food. Anyone with horse sense could see that the fewer people needed to raise food for the nation, the more people there are to make these necessities and luxuries which everyone wants but cannot have now because so many farmers are still working inefficiently with no power except what we horses furnish.

"And just when farmers are beginning to use tractors with which they can do as much work as three or four men could with horses, and so relieve more men to manufacture luxuries and necessities, this man wants them to stop using the tractor and put us horses to work again, in order to require more men on the farm. Really, his argument is so ridiculous and so lacking in horse sense that it makes one sick to read it. The idea of talking about bettering conditions by making men less efficient and having them produce less, thus forcing more men to live on the farms in order to produce enough food to go around. And in the next breath to talk about having modern equipment on these farms, when he has just planned to destroy the factories and remove the factory workers which make the modern farm home possible. Yet some people with no reasoning powers but who believe everything they read will be likely to take his word for these things and keep us horses at work, when both men and horses would be better off by letting us go and using machines in our place.

"Why, his idea if carried out would put this country in the same class with the European countries, where the farmers work so inefficiently that even with a larger percentage of the population raising food than is found in this country they still have to buy food from us. It would be leading the nation in the direction of Asiatic nations, where eighty percent of the people live on the land and close to the source of supplies' and where there are more 'owner-operated farms,' but instead of a 'better social life' they are little more than slaves and without any modern conveniences or facilities for education and advancement because the eighty per cent of the people are working hard to keep from starvation while the other twenty per cent are needed to keep up what little governmental organization, transportation facilities, and commercial organization they possess. In other words, in order to serve his own selfish ends and the interests of those who are hiring him for this propaganda, this erstwhile friend of ours is willing to recommend a national program which would set the whole nation back several hundred years."

"IT doesn't seem possible that men will generally believe such fallacious arguments as you have mentioned," protested the bay mare. "Why," even my youngest son, who is a mere colt, can think clearly enough not to be misled by such tommyrot, and I hope we have enough real friends among the human race to thwart any such propaganda as this man is spreading."

"Well, that's partly true," agreed old Gray. "Most business men are not such fools but they will realize this man is talking like he does because he is paid to do it and not because he really believes it. But there are some men who are such heartless skinflints that if they could make a penny more each year by working a dumb animal instead of a machine, even at greater dis-

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comfort to themselves, they would do it. On the other hand, there are a great many men who are our real friends and who have hearts kind enough to make them only too glad to relieve us of the hard work which once was a real necessity but is no longer, thanks to the internal combustion engine, even though it might cost them a few cents more per year but which would be much more than offset by the more satisfactory work which our successors, the motor truck, tractor, and automobile, can do; by the greater personal comfort and satisfaction which they derive from the use of such machines; and by the knowledge that they are relieving us poor horses of the galling work collar.

"Then, too, there are thousands of business men who have already found out that the internal combustion engine can produce power and apply it much cheaper and more efficiently than can horses, and no amount of 'bought and paid for' slush such as that paper contains would carry any weight with them. But it does hurt one to think that after all the years of work of our genuine friends in trying to better our conditions by making our drivers treat us better, give us a drink at least once in a while, and act toward us as though we had some feeling, that anyone could be so mean as to try to set us back at least a hundred years.

"I CAN remember my mother telling about the days when the book, 'Black Beauty,' first came out and how great an improvement it caused in the conditions under which horses worked, and I can myself remember well when the automobile began to relieve us of those long, heart-breaking drives over the hot and dusty roads, which were all too often of rough stones that almost crippled us for life and usually left us sore and lame for days. Those things made it seem as though an end would eventually come to our bondage. And now to have someone attempt to forge our fetters tighter than ever seems overpoweringly cruel."

"Well, surely no one can be so foolish as to expect that men will go back to those old days and methods and do away with the automobile!" exclaimed the bay mare.

"Why, the man who wrote that leaflet pretends to believe just that!" snorted old Gray, raising himself on his forefeet preparatory to getting up where he could express himself more vehemently and to his greater satisfaction. "And while it is more than absurd, it is no worse than a lot of the figures and misstatements which he has put in that sheet with the intention of forging our fetters on us for another generation or so."

Old Gray made a vicious snap at the paper and turned it over. "Just to show how this conscienceless 'friend of the horse' is trying to deceive the people, let me show you how he has juggled figures in order to make them believe that the horse can compete with the internal combustion engine. He starts out by showing how little work a man need do in taking care of one horse and in providing his feed. He charges up the land which the farmer must use to produce enough food for one horse at the minimum figures for land rental and for labor and ignores entirely the market value of the crops which the horse eats. Thus, he assumes that it costs to feed a horse only what it actually costs to raise the feed, and not what the feed could have been sold for if it had not been fed to the horse. This gives just about half the actual cost. But he finishes by stating that 'against this total cost the fertilizer produced must be given credit at its *actual worth*,' and does not even deduct the cost of handling it. Even then his figures show that any farmer would be better off by feeding the same crops to dairy cows, beef cattle, hogs, or sheep, and using a part of the income from these animals for the maintenance of a gas tractor.

"THEN he tries to show that men can save labor by using horses instead of a tractor. He starts off gleefully by claiming that it requires one hundred and fifty days of man labor to produce a tractor from the raw material, which my horse sense leads me to believe is too high, but let it go at that and study his comparison. He says it only takes sixteen and a half days of man labor to raise one colt to working age, and then compares the man labor in raising four such colts with the man labor which he claims it requires to build one tractor. Now, most tractors which take one hundred and fifty days for a man to build would do at least as much work as ten horses on the drawbar and as much as twenty or more at belt work, so to produce its equivalent in horses it would take one hundred and sixty-five days of man labor, according to his calculation, yet he has the face to compare the days required to raise four colts with the days required to produce a tractor with as much power as twenty or thirty such colts. And I guess he forgets, too, that the days used in producing tractors have only eight hours in them, while the days of farm labor in raising colts are based on the farmer's eight-hour day, which means eight hours before dinner and eight hours after, which makes quite a difference.

"Then, a tractor can run day and night, if necessary, while we horses cannot possibly work more than twelve hours a day and really should not be required to do that, so one tractor will actually do as much work in an emergency as twice the number of horses it actually displaces at one time.

"This 'friend' of ours who wrote this trash either does not realize (probably does not want to realize) what a boon farm machines of all kinds are to the human race—they take labor to produce them, to be sure, but they give it all back many times over when they are used. Take the grain binder, for example—it requires many more days of man work to build than does the old cradle, but when it is on the farm it does the work of ten or fifteen men with cradles and saves in one or two seasons more days of man labor than were used in building it. The same thing is true of tractors and trucks and practically all other machines.

"If it were not so serious it would be amusing to see how this juggler of figures tries to mislead farmers into raising horses for his farm work by half stating facts. For instance, he tells how important it is that the fertility of our soils should be maintained and that manure is a very important factor in maintaining fertility. He quotes authorities to show how valuable is the manure which we horses produce, and to read his stuff one would think that no other kind of manure would answer the purpose, yet figures given by the very authorities he quotes show that dairy cows produce a greater amount of manure annually than a horse and that the amount produced has about one-third greater value. In other words, if manure is as important to American farmers as he would have them believe (and it is) then the farmers cannot afford to feed their crops to horses but should feed them to other live stock which will produce larger quantities of equally or more valuable manure. Furthermore, the other animals will pay a great deal better for the feed they eat than will horses, as the other animals have a better market value than horses. Why, Dr. George M. Rommel, of the United States Department of Agriculture, speaking in New York at a meeting of the men who hired this 'friend' of ours to write this trash, at which meeting this friend was doubtless present, stated:

"'A farmer can raise 1,500 pounds of pork in nine months, and sell it at present prices at 13c a pound, or for a little less than $200.00. In nine months he can raise 1,500 pounds of lambs and sell them for more than $200.00 at the present prices. He can raise 1,500 pounds of beef and sell it in 30 to 36 months at considerably more than $200.00. If he starts in to raise a horse just to make the money that he can get out of the horse, and turns out a 1,500-pound horse in five years, he is lucky if he gets $500. That is the reason why the farmers have stopped breeding horses to a considerable extent.'"

"AND yet in the face of such figures from an unbiased authority, this hireling of the men who are making money from our sweat and blood has the nerve to recommend to farmers that they raise and use horses, when he well knows it is against their best interest.

"Then he tells how we horses utilize by-products which would otherwise be wasted and can therefore be fed very economically. That's to encourage heartless farmers to turn us out in the fields in winter and starve us to a point where we have to eat the dirty and rotten stalks and weeds which we can dig from under the snow or along the hedge rows. Just as though sheep wouldn't scavenge better and more profitably than we could and at the same time do it in comfort, as they have a fleece which keeps them comfortable in cold weather, while you know how we suffer when exposed, especially after having become accustomed to living in a warm stable during the milder portion of the year. Really, there seems to be no end to the practices which this man would recommend if he could thereby persuade a few more farmers not to buy tractors. I wish he would interest himself in hogs or sheep or cattle, which make more money for farmers than we horses ever did and which never get the abuse and hard work which we get. They live on the best and have

(Continued on page 65.)

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MONO-TWIN

"The final word and greatest advance in solid truck tire construction."

1. MONO-TWIN—is made from one solid piece of rubber from which the grain has been removed making chipping and splitting virtually impossible.

2. MONO-TWIN—is vulcanized on a single steel band by means of the new process which forms a union between the rubber and steel—an exclusive U. S. attainment.

3. MONO-TWIN—vacuum depressions and rubber cross bars insure greater traction. The tire grips the road and reduces skidding—on country roads and city asphalt alike.

4. MONO-TWIN'S—exclusive design overcomes the traction wave, which causes excessive heat to be generated within the tire. The vacuum depressions break this traction wave along the centre of the tire at its most effective point, neutralizing the heat effect and its tendency to retard the movement of the truck.

5. MONO-TWIN'S—mold is patterned to permit heat to completely penetrate the tire, evenly curing it during the process of manufacture.

6. MONO-TWIN—can carry a heavier load than two single tires of half the section width and its distinctive contour and tread enable it to retain its load carrying capacity undiminished throughout its life.

Six years of experimentation by the world's largest rubber company along the lines of practical truck tire construction—proclaims MONO-TWIN the most advanced and serviceable heavy duty solid truck tire on the market.

United States Tires are Good Tires

"The practical tire for heavy-duty service"

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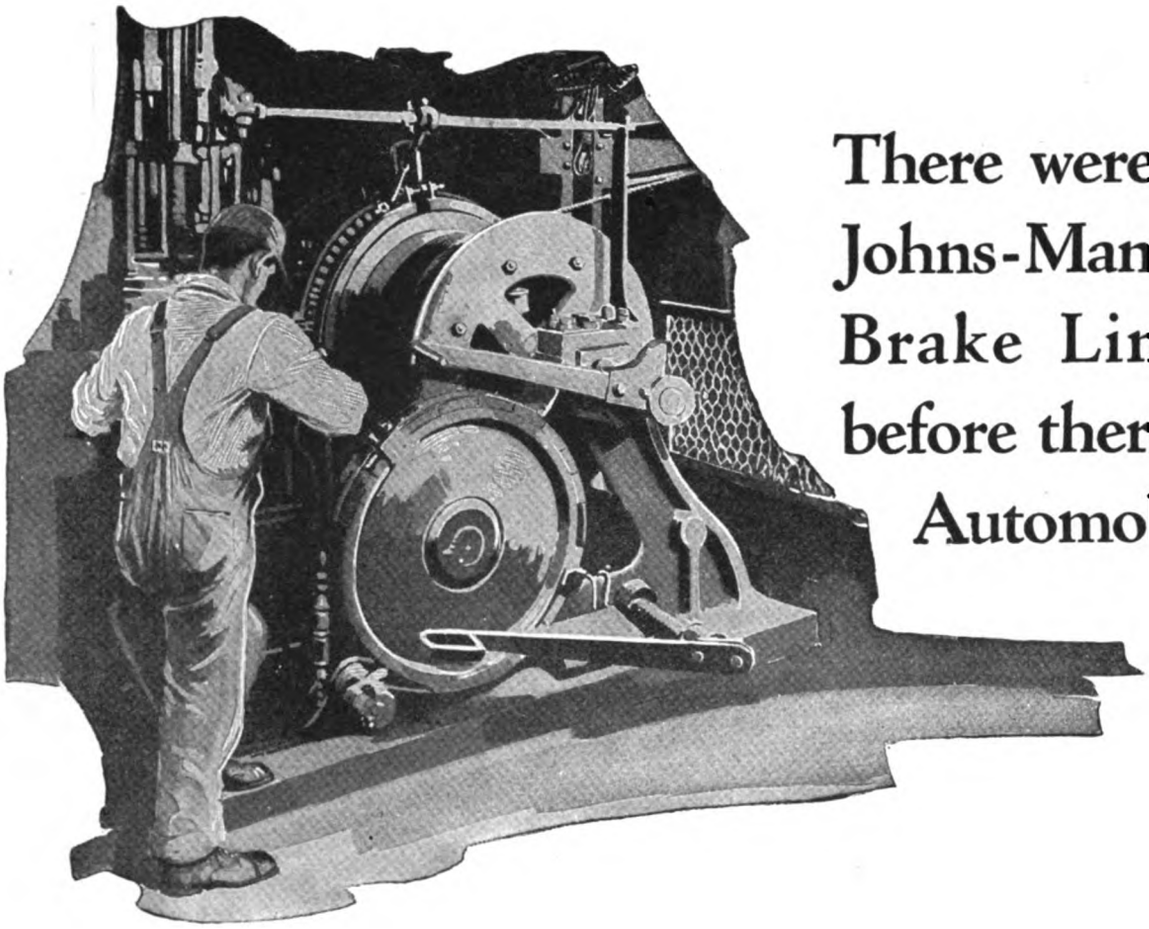

There were Johns-Manville Brake Linings before there were Automobiles

LONG before automobiles were invented, there was heavy industrial machinery that had to be controlled by brakes as surely as the modern motor car.

For on this apparatus, with brake drums often several feet in diameter, brake slippage or failure meant disaster, loss of property or even life.

For brakes like these, Johns-Manville made friction material that stood up successfully under terrific heat and grinding wear.

Experience back of Non-Burn

With the growth of the automotive industry, it was natural that Johns-Manville, with its years of experience in brake lining manufacture, should lead in the development of dependable brakes for motor cars.

And today, while holding a unique position in industrial braking, Johns-Manville stands even higher in the automotive field through Non-Burn Asbestos Brake Lining.

There are all kinds of asbestos, but there's only one kind that gets into Johns-Manville Non-Burn Asbestos Brake Lining —the best asbestos.

JOHNS-MANVILLE SERVICE COVERS THIS CONTINENT

Through—

Asbestos

and its allied products

JOHNS-MANVILLE
Serves in Conservation

Heat Insulations, High Temperature Cements, Asbestos Roofings, Packings, Brake Linings, Fire Prevention Products

JOHNS — AUTOMOTIVE

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It is literally true that tons of asbestos rock are sorted to obtain a pound of the special long fibre asbestos suitable for Johns-Manville Non-Burn Asbestos Brake Lining.

The largest asbestos mines

There are several reasons for the dependability and long life of Jonhs-Manville Non-Burn Asbestos Brake Lining. For one thing, the asbestos used in Non-Burn comes from the largest asbestos mines in the world, owned by Johns-Manville.

This insures a steady supply of the most suitable fibres, without the necessity of depending on the open asbestos market.

Selecting the best asbestos

These selected fibres, separated and graded by a peculiarly accurate process, are then spun and woven on Johns-Manville looms into an extremely dense fabric, reinforced with strong brass wires.

And this fabric is still further increased in density and wearing strength by impregnation with special compounds under tremendous pressure.

Brakes last longer with Non-Burn

The result is a brake lining that not only has remarkable braking power, but also has the ability to stand up longer under gruelling conditions.

In a few words, brakes last longer with Johns-Manville Non-Burn Asbestos Brake Lining.

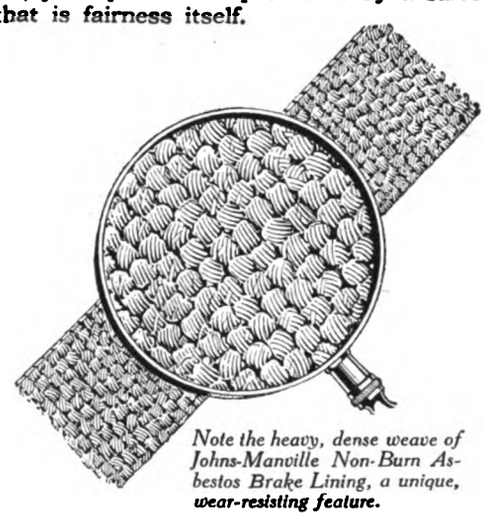
Johns-Manville Non-Burn, a profitable brake lining

It is not surprising that Non-Burn should have a steadily increasing sale when you consider the satisfaction the motorist gets from it.

And every day, through Johns-Manville's national advertising, more of your customers are learning about Non-Burn Asbestos Brake Lining.

When you tell them you can supply them wtih Non-Burn, you'll find a ready acceptance—and a repeat order after the brake lining has done its duty.

Moreover, your profits are protected by a sales policy that is fairness itself.

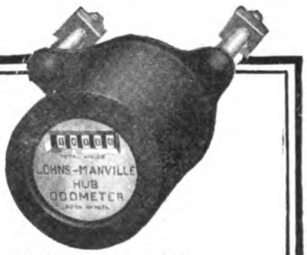


Note the heavy, dense weave of Johns-Manville Non-Burn Asbestos Brake Lining, a unique, wear-resisting feature.

The best way to sell Non-Burn

One of the surest ways of selling brake lining is to show that it is needed. When ycu think one of your customers should have new brake lining, tell him so. You're an expert—point out the condition of his brakes. And sell him Johns-Manville Non-Burn Asbestos Brake Lining, the lining that makes customers satisfied because it makes brakes last longer.

The nearest Johns-Manville branch will tell you who distributes Non-Burn in your vicinity. Or see your distributor and ask him about the opportunities for you in handling this profitable Johns-Manville product.



Johns-Manville Hubodometer

—a source of profit to the dealer as well as to the man who buys one to keep track of his truck costs. Records accurately every mile travelled.

H. W. JOHNS-MANVILLE CO.
Madison Avenue at 41st Street, New York City
10 Factories—Branches in 64 Large Cities
For Canada
CANADIAN JOHNS-MANVILLE CO., Ltd.
Toronto

MANVILLE EQUIPMENT

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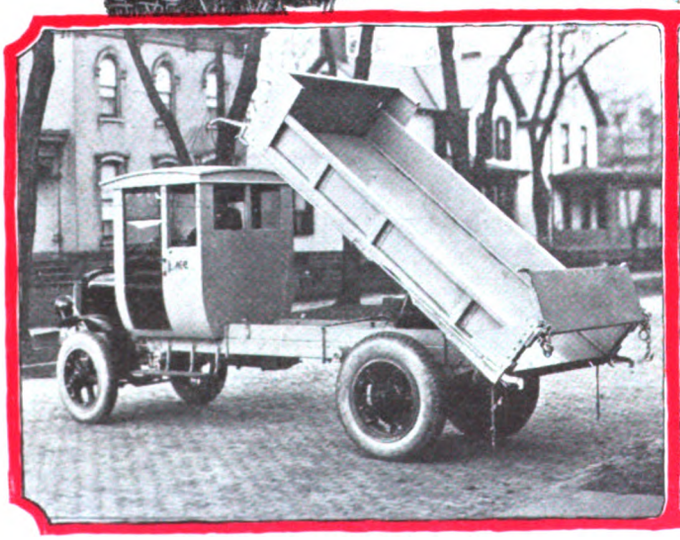
ACE
MOTOR TRUCKS



Please mention "Power Wagon" when writing to advertisers.

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versatile

Ace versatility extends even to its selling plan which recognizes the Dealer as a partner; helps him; protects him; pays him well. A brand new plan which fits the Truck business as it is best done today.

Ace versatility recognizes obstacles of service through overcoming them.

There isn't a load or a road or a traffic condition that does not yield readily to this Truck's ability to play any Transportation part.

Versatility is engineered in—it comes from wonderful flexibility—perfect balance—direct driving power—straightness of frame, drive shaft and control rods to insure positive action—ease of control—completeness of all essentials which keep a Truck moving in spite of anything.

Completeness Assures Versatility Plus

A strong, rugged and perfectly equipped haulage unit ready for your job whatever it is—that's the Ace.

Consider the efficiency and economy of a dependable Electric Self-Starter; the advantage, morning and night, of self-tracking electric headlights; the protection from all weathers of a good cab; the benefits of a governor which minimizes road strains through control of engine speed; the added durability of all parts from three full coats of paint.

Versatility is a matter of all 'round usefulness—look to the Ace for it.

Specifications

Modine Spirex Sectional Radiator
Timken-Detroit or Sheldon Front Axel
Buda Motor
Atwater-Kent Distributor
Merchant & Evans Multiple Dry Disc Clutch
Cotta Transmission
Cotta Control
Ross Steering Gear
Merchant & Evans Universal Joints
Timken-David Brown Worm Drive or Sheldon Rear Axel
Mather Springs
Parish & Bingham Frame
Dayton Steel Wheels (on 2½ ton model)
Schwarz Wooden Wheels (on 1½ ton model)
Firestone Solid Tires or Goodyear Pneumatic Tires

Extra Standard Equipment

All Weather Cab
Military Radiator Guard
Channel Steel Bumper
Westinghouse Self-Starter
Westinghouse Generator
Self-Tracking Electric Lights with Dimmers
Exide Battery
Klaxon Horn
Pierce Governor
Veeder Odometer
Fully Painted

PRICES

1½ ton Chassis	$2750
1½ ton, completely equipped	3100
2½ ton Chassis, 156″ wheel base	3450
2½ ton Chassis, 144″ wheel base	3450
2½ ton Chassis, 180″ wheel base	3600
2½ ton Chassis, completely equipped 156″ and 144″ wheel base	3800
2½ ton Chassis, completely equipped, 180″ wheel base	3950
3 ton Chassis, Sheldon axles	3650
3 ton, completely equipped	4000

Furnished in 144″, 156″ and 180″ wheel base with additional charge of $150 for the longer wheel base.

Chassis only, for export

1½ ton	$2750
2½ ton	3450

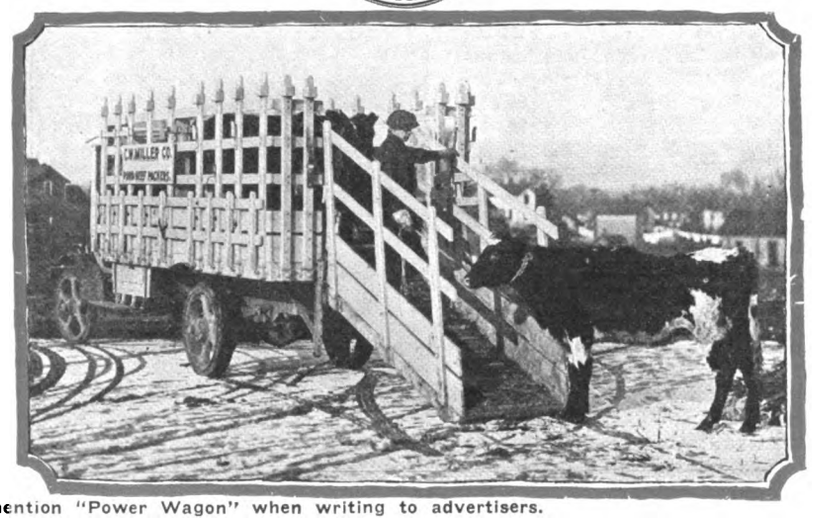
Ace

The AMERICAN MOTOR TRUCK COMPANY
NEWARK OHIO.
Automotive Products Corporation

Export Department
Woolworth Building
New York City

MEMBER OF THE MOTOR TRUCK MANUFACTURERS ASSOCIATION · MTMA

Cable Address
"Autoprodco, N. Y."



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One Flour Truck Displaces 6 Teams; Saves $10,000

Makes Deliveries Within 10-Mile Radius of Des Moines, Iowa, at Great Saving in Time and Money

THE Millers' Distributing Company, of Des Moines, Iowa, is a strong believer in the efficiency of the motor truck and its economy over horse-drawn vehicles. As an example of what this firm has accomplished with its one motor truck, one of the members of the firm relates its experiences as follows:

Our business is distributing flour in sacks from warehouses to retail grocers in Des Moines. Within the city, the territory is fairly well paved, but on the routes leading to Valley Junction, the Fair Grounds and the road to Fort Des Moines, the roads are not in a very good condition. For this reason it was impossible to make deliveries with horses beyond the city limits.

A little over a year ago we placed in service a 1½-ton Selden motor truck equipped with 36 by 6 pneumatic tires. Since that time we have been very successful in making deliveries to all grocers within a 10-mile radius of the city limits.

We have a system that enables the motor truck to do a lot of extra work, and this is partly responsible for the fact that our machine does the work of twelve horses. It has no special route or schedule, though each trip is routed to cover as thoroughly as possible, the territory in which it is delivering. It is started with over 2½ tons usually, most of the over-load being delivered within a very short distance.

In other words the motor truck will go several squares and deliver flour to a grocer, a short distance further and deliver more. By the time the city limits are reached, the truck has only a rated load left, and is able to go ahead in spite of the roads.

It is quite an advantage to have motor trucks capable of starting out with an overload, because it saves us the expense of another machine, or horse teams for the shorter hauls. Furthermore we find that we can make one or two trips per week to each of the outlying points, which, because of the distance, would keep two teams busy all the time.

Considering the short haul loads, and the long haul loads, at least six 2-horse teams would be required to make the same deliveries as our motor truck now handles. That means the motor truck gives increased efficiency at lessened cost, actually saving us over $10,000 a year. This may appear on over-statement, but our figures bear me out. A two-horse team, with driver, costs $8.00 per day here in Des Moines. The six teams necessary to handle this work would cost $48.00 per day.

The cost of operating our motor truck, considering every item chargable to motor truck operation is approximately $14.50 a day. This gives us a saving of the difference between $48.00 and $14.50, or $33.50 a day. Considering 300 working days a year, this saving amounts to $10,050.

As the original cost of our motor truck was $3,050, this means that the machine has paid for itself three times over the first year, for if we were not using it it would be necessary to use the teams and thus the additional expense would be incurred.

I don't mean to say that every firm could effect a similar saving, but in our case there can be no question that motor trucks are far more economical. I give close attention to the motor truck, and see that the driver is careful about keeping it well lubricated, even specifying the kind of oil to be used. A good driver is essential to efficient operation. The only time our power wagon has been laid up was to repair a broken radiator due to a collision.

Our records show the following figures.

OPERATION RECORDS.

Period covered	4 Mos.
Days operated	90
Total loads	
Miles traveled	4,275
Gasolene—gals. used	450
Cyl. oil—pts. used	90
Miles traveled	47.5
Unit miles	
Miles per gal. gas	9.5
Miles per pt. oil	47.5

COST RECORDS.

Investments—	
Chassis	$2,750.00
Body	300.00
Total investment	3,050.00
Tire value—pneu.	477.40
Total less tires—to be depreciated	2,572.60
Variable Charges—Period.	
Fuel at 25c gal.	$ 112.50
Cyl. oil at 10c pt.	9.00
Tires—4,275 miles. $477.40—10,000 miles life	203.92
Depreciation—4,275 miles. $2,572.60—40,000 miles life	274.88
Maintenance & repairs (est.)	85.50
Driver's wages	450.00
Total variable charges	1,135.80
Total fixed charges	165.89
Total operation cost	1,301.69
Fixed Charges—Yearly.	
Interest on total inv.	$ 162.67
Taxes & licenses	15.00
Insurance	200.00
Garage expenses	120.00
Total per annum	497.67
Total per month	41.45
Total per period	165.89
Daily Costs—	
Cost per day operated	$ 14.46
Cost per mile traveled	.30
Repair cost per mile	.02

Motor Truck Saves $250 on One Load—Bloomington to Chicago

BLOOMINGTON, ILL., July 21.—An unusual motor truck performance was that made by a 2½-ton Bethlehem, owned by the Northwestern Trucking Company of this city which makes a specialty of heavy and long hauls. The Malt Made Company, of Chicago, recently purchased a bottling table in St. Louis which weighed 5,000 pounds. Due to the fact that the only line operating an industrial track into the plant of the table manufacturer, is the electric line known as the Illinois Traction System, it was decided to load the table upon a flat car and move it by the traction line to the northern terminus at Bloomington and thence by motor truck from Bloomington to the plant in Chicago.

Before this move was decided upon, a careful check was made of the expense by other routes and methods. In the event that a steam line had been selected, the cost of loading the table upon motor truck and moving it to the freight depot of the steam road and the additional cost of reloading it at Chicago upon another motor truck and hauling it to the destination, combined with the freight charges, would aggregate close to $500. The freight charges on the Traction line to Bloomington and the movement by motor truck from this city directly to the plant of the company in Chicago, was found to cost approximately $250. The charge for the machine was $180. The saving in time and expense, was thought well worth the combination of traction line and power wagon and the movement was successfully made, while a return load was picked up from Chicago to Bloomington.

Adds Engineer and Sales Manager

W. G. Jarman, general manager of the Hamilton Motors Company, of Grand Haven, Michigan, manufacturers of Apex motor trucks, announces the appointment of A. L. Martin as general sales manager, and H. A. Oswald as engineer of the company.

Truck that saves $10,000 annually.

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How to Select Oil-Tank Trucks

By F. A. BEAN
Consulting Engineer, Wayne Oil Tank Company

UNTIL very recently—within the last three years, the rolling or distributing equipment, that is, the tank trucks used by oil companies, have received comparatively little thought and less care. The result has been that the cost per gallon for delivery to the customer or the filling station has been considerably higher than necessary. There are certain fundamental and basic principles which must be carefully observed or this department of the industry must be an inevitable failure.

The major portion of the blame for this condition rests with the oil companies, although some of it is chargeable to motor truck salesmen and to tank builders. This has not been malicious nor intentional but is the result of ignorance and a lack of study of operating conditions. It is quite evident that there is something radically wrong when one company shows a delivery cost in a certain city ranging from two to two and a half cents a gallon, while another company operating under almost identical conditions and opportunities in the same city shows a cost ranging from four tenths to seven-tenths cents per gallon.

The manager who has carefully analyzed the various factors entering into the cost of delivery is the one who is delivering at a cent or less per gallon. A number of managers believe they are delivering below the one cent mark because their bookkeeping departments are not given sufficient data and are not taking into account all of the items.

THERE are a large number of the smaller independent oil companies who have not the faintest idea of what their delivery cost is; furthermore they are not taking any steps to find out and the writer has talked to some managers who have not even an idea how to inaugurate a system that will give them the desired information or what items should be taken into account in order to determine what their trucking costs really are. This is not an exaggerated statement.

A high cost of delivery may be due to any one of a number of causes or to a combination of a number of them. Among them are: the use of an improperly designed motor truck or tank; the use of motor trucks of a wrong capacity on a certain route; too great a mileage for the gallon delivered, improper routing; excessively high maintenance charges due to over-load; under-tired vehicles, or poor inspection and repair methods and to high operating costs of the motor truck resulting from poor loading and unloading facilities or from carrying an under-load. There is also a great deal chargeable against careless, untrained and generally indifferent chauffeurs.

Every posible item of expense connected with the motor truck must be taken into account when calculating the cost of delivery per gallon. It necessarily follows that if we can design, operate and maintain our motor trucks, so that we have reduced the cost of delivery per gallon a fraction of a cent, we have added that same amount to the profits on every gallon we sell. It is necessary before we can make efficient any system for either maintenance or operation that we have the proper motor trucks.

The first thing necessary is to determine on a specification that will give us the motor truck with the lowest operating and maintenance charge in this particular line of work and experience has already taught practically all operators two very important lessons.

THE first is that the motor truck that is cheap in price at the time of purchase rarely develops to be a cheap machine from an operating view-point over a period of years. The second is that in operating a fleet of motor trucks in either one of a number of cities it is very costly to experiment with several makes of machines. Using only one make very materially reduces the cost of repairs, and simplifies all the problems of service, the stocking of repair parts, etc. It also has another important feature and that is a great many operators fail to realize that both passenger cars and motor trucks are a little bit human in their action and each make has certain peculiarities. The use of only one make of motor truck will greatly assist the manager, repairmen and drivers to learn these mechanical peculiarities and thus come more nearly to 100 per centum operating efficiency.

The standardization of equipment will help in the solving of the various loading and operating problems; will cut repair shop and repair part stock room space and cost; will cut fuel consumption; will make easier the planning of garages, repair and paint shop, loading racks, etc.; will reduce the labor required at large distributing plants and simplify the accounting system. It will also allow the interchange of bodies on units of like capacity and make the design of these bodies a much easier problem.

There are a few things in connection with motor trucks as related to the distribution of petroleum products with which we wish to thoroughly impregnate the oil man's mind, for this reason we have already made and will continue to make several repetitions of the subject matter in slightly different language.

The first thing is the choice of the motor truck. The oil company has a choice of many good ones. None of them is wholly bad. Pick a make of machines that will conform to your specification and embodies the best material and workmanship. This usually means a motor truck well above the average in cost. See that the manufacturer is one of good financial standing so that your motor trucks are not in a position to become orphans at the end of two or three years and leave you high and dry for repair parts, or with long waits and excessive charges.

They should have a reasonable number of well stocked service stations in every locality where your machines will be operated.

Keep away from motor trucks assembled from mongrel parts.

The capacity of the machines to be used will depend entirely upon the territory to be served and the business to be handled.

The sizes which are giving the best average results range from 1½- to 3½-tons.

The ¾-ton and 1-ton machines very seldom earn their way at small stations but have been used to good advantage in making emergency deliveries, when attached to a large fleet in the larger cities.

The motor trucks of from 4- to 7½- tons capacity have given very good results in large dump load service on good roads and where the routes were of comparatively short mileage.

One thing to be remembered is that on routes where the gallonage will warrant, it is cheaper to operate a 5-ton motor truck than two machines of one half that capacity.

Some municipalities have already limited and others are considering limiting the capacity of motor trucks which shall be allowed on the public streets and highways. Because of the cost of construction and maintenance of highways and streets it is more than probable that motor trucks of more than 5-tons capacity will not be allowed in a great many localities.

THERE is a question among many highway and municipal engineers as to whether the limit of the load allowed on a highway should be based upon the pay load capacity of the vehicle or upon its upsprung weight. Anticipate your needs in the motor truck line, well in advance. Do not wait until a few days or even weeks before the time you wish to put the finished motor trucks into service and then expect to get what you want in either chassis or body or expect to get the machine which will give you the best service. When this course is followed, the result is usually that some motor truck other than the right one is purchased and the cost paid in after years.

Parker Makes Big Sale

The Parker Motor Truck Company, Milwaukee, announces the closing of a contract with the Wilson & Vevera Corporation, 1482 Broadway, New York City, involving the distribution of two thousand motor trucks. The Wilson & Vevera Corporation are jobbers and will represent the Parker line in eight Eastern States. Dealers will immediately be established in principal cities, and motor truck deliveries will start August 1.

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Rockford 'Bus Line Shows Net Profit of $3,909 for One Month

The Fay Motor 'Bus Company, of Rockford, Illinois, operates several 'bus lines, using Reo 'buses. This company made a special report of operating expenses for the month of December, 1919. Thirty-one 'buses were taken as the basis. Twenty-six of these were in operation at all times, five being held in reserve. Taking 26 'buses in operation for one month, the total mileage was 50,902.

Operating expense, mechanical repairs, garage, gasoline, oil, tires and other incidentals were one-half cent per mile. The cost for drivers was four and one-third cents per mile. Overhead was three and one-tenth cents, and depreciation one and three-ninths cents per mile.

The total cost per mile was fourteen and one-thirtieth cents.

The gross earnings were twenty-one and nine-tenths cents per mile. The net profit per mile was seven and thirteen-fifteenths cents. The net profits on all the 'buses for the month were $3,909.58.

Tractors Prove Worth in Illinois

Using a Case 15-27 tractor, Ebon Jones, a farmer of near Towanda, Illinois, double disked and harrowed 60 acres of land which previously had been plowed, in 12 hours. With the same tractor, he plowed 95 acres in 7 days, never working more than 16 hours a day. Due to the frequent rains, he was far behind in his spring work. His tractor saved the day for him and he went far ahead of his neighbors who depended solely upon horses. John Funk, a farmer of Heyworth, Illinois, using the same size tractor, plowed 160 acres in 12 days, working 12 hours a day.

Three Tractors Replace 120 Horses

Out in the great fruit belt of Central Oregon last season 120 brawny, sturdy, most loyal and faithful horses passed into discard. The work of transporting apples from the 4,000-acre orchard of the DuFur Orchard Company to the shipping sheds is now being done more satisfactorily, economically and expeditiously by three tractors with an equipment of nine trailers. The qualities that have so endeared the horse to the American farmer—sturdiness, loyalty, strength and dependability—are found in greater degree in modern power farm equipment.

With one-sixteenth of the world's population, the United States has five times as many motor vehicles as all the rest of the world.

Machine-Shop Truck Is Big Aid to Fleet Owners

INSURES QUICK REPAIR TO HAULING UNITS

Repair shops, mounted on motor trucks, are destined to play an important part in facilitating the successful operation of the ever increasing fleets of motor trucks operated by large companies, contractors and road builders throughout the country. With the increasing use of fleets of motor trucks in various lines of business, the machine shop truck, as a flexible medium for keeping fleets in constant running order, at a minimum loss of time, will become as necessary and vital a factor for commercial use as it was during the war.

The continuous operation of every motor truck is an important consideration with a fleet owner and in this respect the machine shop truck has proved itself a time and money saver through its ability to go direct to the crippled machine and put it in shape at a minimum of time. Mounted on the chassis is complete equipment to handle any kind of repair job. A separate motor furnishes the power for operating the various machine tools. This embraces such mechanical apparatus as a drill press, screw cutting lathe, electric grinder, blow torch, welding outfit, forge and more than 1000 other pieces of machinery and tools.

Each tool and piece of machinery has its own location, insuring compactness when the end and side panels are up and the truck is in motion. The fact that a great number of these moving repair shops were furnished the government during the war is proof of their value in caring for fleets of motor trucks. With the increasing tendency to operate fleets in various industries, the efficiency of the machine shop trucks will soon make it an important factor with every fleet owner.

Hare Motors in Chicago

Locomobile, Simplex and Mercer cars will be sold through the Hare's Motors of Chicago, a new distributing company which made its debut on automobile row this month.

The main officials of the dealers' organization are Clinton B. Amorous, who has represented the Locomobile in Chicago since the close of the war and was formerly assistant sales manager of the Bridgeport concern, and Joseph M. Hutton, who recently relinquished the agency for the Bethlehem motor truck. Mr. Amorous is president and Mr. Hutton vice president.

The Hare's Motors line consists of the Locomobile, the Mercer and the Simplex passenger cars and the Riker motor truck. The territory of the Chicago dealers embraces a majority of Illinois and Wisconsin, eastern Iowa and northwestern Indiana.

New York Has 400 Truck Lines; West Looms With 3 Big Ones

Motorized highway transportation is growing with astonishing rapidity. New York state alone has over four hundred motor express lines in operation. It is estimated that, for the whole country, there are not less than 5,000 such lines in operation. These lines are of greatly varying size and widely scattered.

The American Motor Freight Company, with headquarters at Sioux Falls, South Dakota, is incorporated at $500,000. A map of its route includes 80 towns in Minnesota, Iowa and South Dakota. The New England Transportation Company which operates out of Boston, is reported as having 150 motor trucks in service which operate over 12 routes totaling over 1000 miles in length. The Patriot Motor Express Company, of Wichita and Kansas City, Kansas, is capitalized at $1,000,000. It is operating throughout Kansas, Nebraska and Missouri and will use 250 motor trucks.

U. S. Tire Experts' Meeting

A three-day conference of the motor truck tire experts of the United States Tire Company was held July 12, 13 and 14. The conference opened with a session at the Hotel Astor, New York, on the afternoon of July 12. A banquet in the evening was followed by a theater party, after which the convention proceeded to Providence, where the truck tire manufacturing activities of the company are centered.

Lloyd J. Bohan has been appointed general sales manager, axle department, of the Edward Valve & Manufacturing Company, Chicago, manufacturers of the Walker axle. Mr. Bohan was formerly western sales representative for the Torbensen Axle Company, Cleveland.

Machine shop on wheels.

Truck's engine furnishes the power.

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Seven years old; $20 repair bill.

Truck Proves Its Mettle

As an example of the stability, flexibility and positiveness of the motor truck, the history of a trip made by a 3½-ton motor truck is interesting:

Early in April, the Steamer Diarigo of the Texas Steamship Company on its trip to Bath, Maine, from a foreign port wirelessed that it had experienced engine trouble, and a new cylinder would have to be installed as soon as it arrived in Bath, Maine, in order not to delay its trip. The cylinder in question was made and finished in Buffalo, but was not finished in time so that under ordinary conditions it could be transported to the city referred to at the time the steamer was due there. Ordinary transportation conditions were not existent and the railroads could give no definite time of transit either by freight or express.

An Atterbury motor truck was called upon to deliver the cylinder to Bath, Maine. The machine left Buffalo on April 10 at 6 A. M. and arrived in Bath, Maine, on April 15 at 6 P. M. During the trip very bad road conditions were experienced and in some parts of New England heavy snow was encountered for many miles. In some places the snow was so deep and heavy that, while the passage had been cut through the drifts for a touring car, the motor truck on account of its size was compelled to push its way through the snow for about eight inches on each side of the road. Notwithstanding this, the trip was made without any trouble of any sort and the cylinder delivered to the boat one day before its use was required.

Sutton to Handle Denby Advertising

L. B. Graham, general sales manager of the Denby Motor Truck Company, Detroit, announces the appointment of E. T. Sutton as advertising manager for the company. As a district sales manager covering a period of three years' service, Mr. Sutton has had wonderful opportunities for observing from every angle the advertising needs of Denby distributers and dealers. With the idea of utilizing to the fullest extent the knowledge of these needs, the appointment was made.

The factory and general offices of the Automotive Trailer Corporation have been removed from Kincaid, Illinois, to Springfield, Illinois. The heavy increase in business is given as the cause of the move.

Trucks Aid Small Packers

It is due to the successful operation of the motor truck as a livestock carrier that small packing centers are being established in different parts of the country. Packing centers shorten the haul to market as the products do not have to be hauled to distributing centers before being sent out to the ultimate market. This in turn has an important bearing on keeping the cost of meat down to a minimum. The livestock grower instead of loading stock in cattle cars to ship to the different centers now hauls them to the nearest packing center in his motor truck, saving time and expense as well as delivering cattle and hogs in the same condition they left the farm.

The consumer in the vicinities of these packing centers is able to get fresh meat at a price lower than if the meat had come a great distance. Thus it can be seen that the benefits of the motor truck are not just those that are directly attributed to it, but are benefits that redound in a greater area than is realized.

Motor Truck Serves Seven Years With Only $20.00 Repair Charge

The accompanying illustration shows one of the first chain driven motor trucks built by the Republic Motor Truck Company. It is 7 years old and has been in service for the Cadillac Varnish Company, of Detroit, Michigan, without interruption since its purchase in 1913. The hauling accomplished by this machine is almost unbelievable. While no accurate figures are available to show the milage covered by this motor truck, it is estimated that over 400,000 miles have been delivered. The tires shown in the picture are the machine's original equipment. The motor truck continues in steady daily operation at the present time and the record it has made is best described in the following letter:

"We have operated the motor truck for seven years and during that time have spent less than $20.00 on repairs. We have worked it pretty hard during all that time and yet it never required a complete overhauling in that time, nor has it been in any repair shop for serious work. All the repairs which were ever necessary were of a minor nature and we did the work ourselves. Our truck has operated constantly in summer and winter and most of the time has carried a 50 per centum overload. We can not speak too highly of the dependable service which our truck has rendered, and the all around satisfaction which we have experienced with it. Signed, Cadillac Varnish Company, by A. S. Youngs, President."

Eats Meals on Moving Tractor

W. H. Tibbs, a farmer of near Elkhart, Illinois, would have been unable to keep up with his farm work this spring but for a tractor. He has a son, aged thirteen, to help him take care of 110 acres. With the aid of a headlight, he operated his tractor from 7 a. m. until 10 p. m., and thus got through with his plowing, disking and harrowing. Tibbs did not stop even for meals. His wife handed him lunches and he ate the food while the tractor was in motion. While his neighbors who relied upon horses were far behind in their work, he kept up with it and his crops went in on time.

This truck made splendid record.

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One Village Claims 91 Tractors

Towanda, Illinois, believes that it holds the record for the greatest number of tractors in constant operation. Upon the farms within a radius of 5 miles of the village, 75 in all, there are 91 tractors, an average of more than one to a farm. When all of these machines are in operation they consume approximately 2,000 gallons of kerosene or gasolene daily. Towanda is a village of McLean county ranking as the richest, from an agricultural standpoint, of any in the world, producing more corn and oats than any other and with a greater investment in agricultural wealth. Tractors are numerous in all the other townships of the county but Towanda claims first place.

Ungar Takes Sales Agency of Flexite

Slocum, Avram & Slocum Laboratories, Inc., Newark, New Jersey, announce the appointment of G. A. Ungar as general sales agent and consulting engineer of the Flexite division. Mr. Ungar has been prominently identified with the automotive industry for the last ten years, and is well known as the originator of the Flexite designs. He has also been closely connected with the marketing of Flexite products since their inception. Mr. Ungar, in order to devote himself entirely to the commercial development of Flexite universal joints and propeller shafts, which he designed, severed his connections about a year ago with the S K F industries, where he held the position of technical manager and chief engineer. In order to take care of the rapidly increasing demand for Flexite products it has been found necessary to devote more and more manufacturing space and facilities to them. After May 1, 1920, general sales offices and Mr. Ungar's headquarters will be located at Woolworth Building, New York City.

Streator Dealers Form Organization

The dealers in motor vehicles of Streator, Illinois, have organized the Streator Automotive Trade Association and new officers have been elected as follows: President, T. O. Solon; secretary, J. S. McCann; treasurer, L. C. Mulford. Twenty charter members were secured and it is hoped to increase this number to thirty, all firms handling all kinds of motor vehicles, accessories and supplies and also repair shops, being eligible for membership. It was voted to affiliate with the state and national associations.

Trucks Keep Schedule on Lines Through 5 States

DEMONSTRATE LONG-HAUL POSSIBILITIES

When the railroad strike was at its height and the freight congestion at its worst, the Stewart Motor Corporation's plant at Buffalo, was able to keep going full-blast all the time, when many other plants were forced to shut down, due to lack of coal or scarcity of material.

On Wednesday, April 14, the factory ran to the danger line on various stocks of materials. The engineering department worked out detailed plans for a motor transport line between the company's points of supply and Buffalo. By Thursday morning the motor trucks had left Buffalo on their way. Many were back by Saturday and thus the plant was able to keep up the high production mark. All motor trucks were equipped with penumatic cord tires and were constantly pulling stranded solid tired machines out of mud-holes and road side cave-ins.

Material is hauled by Stewarts from Muskegon, Buchanan, Kalamazoo and Lafayette to Detroit, which is a center. Then by boat from Detroit to Cleveland, Cleveland to Buffalo by motor trucks. Material is also gathered from Hartford, New York and Springfield at Albany and carried from Albany to Buffalo by a main line of motor trucks. Telegrams are received hourly at the factory giving information of the whereabouts of the "trains."

It can be readily seen by the favorable results from this that the motor truck can meet any transportation emergency which this nation might be compelled to face. The Stewart Company have found that it can operate motor trucks for about 20 cents per ton per mile, but of course, it must be remembered that various sizes of motor trucks are used ranging from ¾ to 3½ tons, but the average figure for the material hauled was 20 cents per mile per ton. Material like motors, springs, axels, fans and steering wheels constituted the principle loads. These figures are probably lower than would be quoted if somebody went to a carting company for a figure for handling material. This was purely the cost of running a truck and did not allow any profits to be figured in.

Enlarges Spring Plant

The new spring shop of the Detroit Steel Products Company, now nearing completion, will have a capacity of 1,920,000 springs a year, enough springs to equip 45,000 passenger cars and motor trucks a month, or 540,000 vehicles a year. For several months, the spring shop has been manufacturing 2,000 tons, or more, of springs each month. When the new shop is opened, the plant will be able to produce 3,000 tons of springs a month.

A new forge shop, and steel storage bins —242 by 65 feet, are included in the additions to the plant. Steel will be unloaded directly from the cars, by means of 10-ton electric cranes that will transport the steel to the storage bins and to the forge shops. The new forge shops will be equipped throughout with the latest designed spring making machinery, an example of which is the new spring forming machine that forms, quenches and hardens the leaf in a single operation. This machine makes an eight leaf spring at each revolution, requiring about one minute, and greatly reduces the labor.

Butler Assumes Duties With Oneida

H. J. Butler has assumed his duties as general sales manager for the Oneida Motor Truck Company, Green Bay, Wisconsin, manufacturers of both gasoline and electric motor trucks and electric industrial tractors. Mr. Butler comes to Oneida from the Edison Storage Battery Company, with which company he has been associated as manager of the Chicago district offices for many years. Prior to this connection with the Edison companies he was affiliated with the General Vehicle Company and is a veteran in the truck industry.

The Oneida electrics will range in sizes from ¾ ton to 7 tons. The first model to appear is the 2-ton job which was exhibited at the prominent truck shows this year and brought out much favorable comment.

A new meter device which measures the load placed on motor trucks is being tested at Akron, Ohio. It is applied to the motor truck and the weight of the load is registered and recorded automatically.

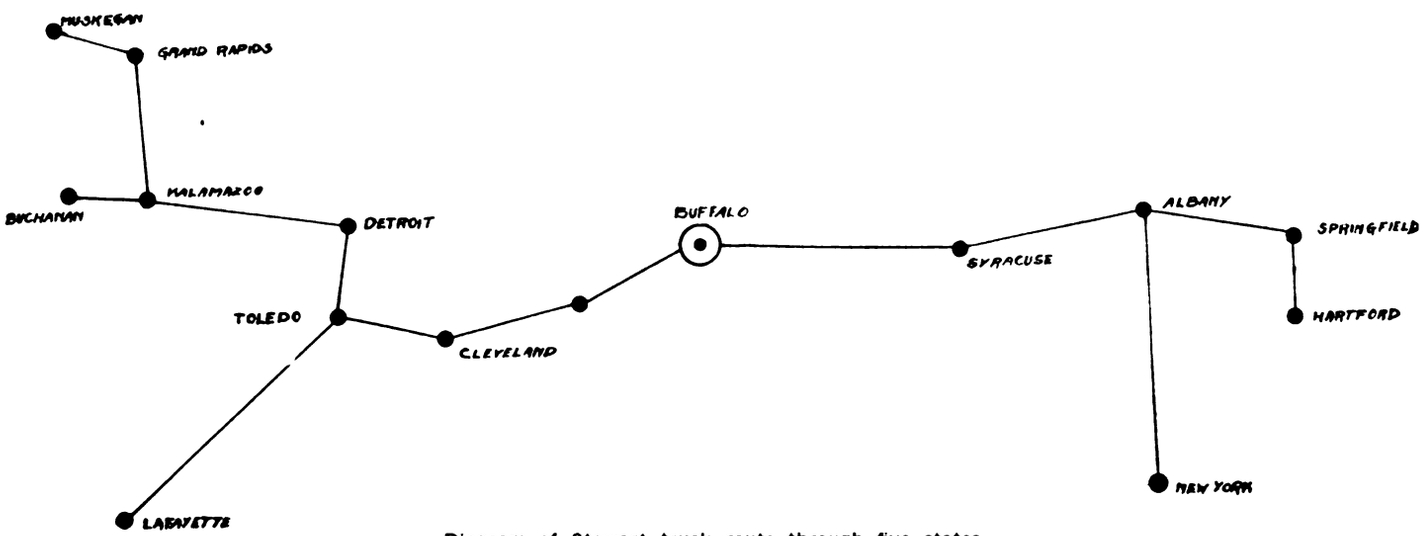

Diagram of Stewart truck route through five states.

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Trucks for Retail Lumbermen

By CAPT. JOHN B. WOODS
United States Forestry Bureau and A. E. F. Transport Service

BROADLY speaking there are two kinds of hauling problems confronting the retail lumberman. The greater of these is delivery, not only of lumber but of cement, roofing, and other building materials which are handled along with the lumber. Then there is another kind of hauling which is met by such lumbermen as are located in regions where there still are tracts of merchantable timber that can be bought and worked up by portable mills. Of course the number of retailers who operate in this manner is relatively small as against the total number of firms in the retail business. Yet they are important because they handle a large volume of business each year, in which the item of lumber haul is very important. Therefore they constitute a large potential and actual market for motor trucks and trailers.

BRIEFLY the conditions surrounding the lumber haul from mill to town or city yard are these: Comparatively long mileage, running from four to five to twenty miles; country roads, varying from well-kept and surfaced highways to common dirt lanes; seasonal work, suiting the job to the weather if necessary; and the possibility of planning and maintaining regular load schedules, so that the evil of rush work is not necessarily met with. The small mills may be said to abound in the South and East, although of course they are found in every timbered region in greater or less numbers. Given fairly good roads and the problem is a simple one, and the motor truck should be easily introduced into every operation of this kind. For the testimony of men who have used them is in their favor. One such operator claims that his motor trucks replace team outfits at the rate of one machine for three teams. Tractors and caterpillars are not so well adapted to such road hauls because they are frowned upon by the people who must build and maintain the roads. Given for example a haul of six or eight miles and many operators favor a motor truck of from 2- to 3-tons capacity, even though the grades climb up to 8 or 10 per centum in one or two places. However for the longer hauls, especially if conditions of grade are not too severe, trailers can be used to excellent advantage. The trailer equipment is very good in case the small mill output is taken away immediately after cutting, or direct from the saw, as the saying goes. Given trailers and the mill crew can load the lumber direct. Then with a single horse the trailers can be taken to one side to await the coming of the motor truck to haul them to town.

In the old days not much attention was paid to tire equipment. Men who bought motor trucks were so unfamiliar with the machines themselves that they asked no questions as to which kinds of tires were best, or if they did inquire they naturally accepted the judgments of their dealers as coming from men who were informed on the general subject. Of late they have been prone to study the tire proposition quite carefully, and as motor truck people and dealers also have been studying the matter there is a fairly well defined set of ideas regarding tire requirements for the lumber haul. Generally speaking the solid tire of a few years ago is not preferred for this kind of work. They do not afford sufficient traction for handling the loads over slippery roads. The so-called caterpillar type of solid tire is better, as its individual treads offer the needed traction. Also giant pneumatic tires are well adapted to the work of hauling lumber to town from the outlying mill. In this matter of tire choice the mill-to-town haul differs radically from the delivery haul, as will be brought out later in this article. Of course some dealers in lumber use their motor trucks for both purposes, bringing lumber in from mill and delivering it to customers with the same machines. In such event they are obliged to select the best all-round tire, which appears to be the solid tire so modified as to improve its tractive ability. Naturally the opinions here expressed are not authoritative, except insofar as they are the summing up of opinions from many sources, chiefly men who have had experience in hauling lumber. Yet they certainly do indicate how the land lies and may be of value for that reason. One fact that is worthy of mention is the statement, so often encountered nowadays, that because of the motor truck operators are enabled to exploit small tracts of timber which were inaccessible in the past. So the motor truck certainly has an important function in the small mill business, and should be put into even wider usefulness.

IN order properly to appreciate the field of delivery in the retail lumber business it is necessary to review the development of that line of trade during the past few years. In the old days the retail lumberman was a more or less independent chap who bought boards and timbers, put them in his yards or sheds and left them there until people came to buy them, and took them away. His function was to supply pieces of wood, and as such a dealer he did not interest himself greatly in side lines or in extensive service. If he branched out for more business it was likely in the direction of a sash and blind shop. But of late he has been interested in a multitude of lumber substitutes and other building necessities, and he also has found that in order to get the most out of business it behooves him to give service of a modern kind. Therefore he probably handles in addition to the old standby, coal, several kinds of wall board, cement, millwork, and a dozen other items, and even offers the benefit of his knowledge of lumber and building in the way of supplying plans for anything from a house to a hog-pen. And of course he delivers everything that his customers desire, even though the load weigh only fifty pounds. His yard has taken on a modern businesslike appearance, and he even puts money into extensive newspaper advertising campaigns.

His delivery problem has undergone a change even while he was getting accustomed to the proposition of delivery. For the trend of city people nowadays is toward the suburbs, and where a few years ago the small city was easily covered by a horse-and-wagon outfit, nowadays the new building is always—or usually at least—on the outer margin of an ever widening circle that extends into the surrounding country. Thus the haul may vary from a single block to twenty miles, and probably averages in the average city something like a mile. In the winter the coal hauls are short but in the summer time when building is at its height and farmers also call for loads of lumber and material the distance is much greater.

IT has been found by several retailers that two sizes of motor trucks are desirable. Two-ton machines for the heavy work and 1-tonners for small loads appear to have the preference. Naturally the light machine is used for loads of one ton of coal or less than a thousand feet of lumber, and for small lots of materials of one kind and another. It often can be sent into places where the bigger machine can not go. Yet the heavy motor truck is needed for building jobs where large orders are called for regularly. For such trips the trailer also is very useful. With respect to trailers one very desirable feature of such equipment is found in the possibility of loading them carefully and exactly, without rushing to get each load on the road. The motor truck driver takes out his trailer for delivery of its load and while he is gone the other trailer is being loaded in the yard.. With fairly light equipment it is possible for the workmen to move the vehicle about in the yard, from stack to stack, while collecting the materials for sending out. If heavy trailers are used it may be necessary to use a horse for this shifting. But in any event the preparation of stock for delivery to customers can be done systematically and without the haste which often results in mistakes. Naturally the saving in time of the motor truck driver and the fuller use of the motor truck by keeping it upon the road constantly are worth considering when planning lumber hauling.

The retail lumberman often holds ideas about tires which are of a different character from those of the small mill operators. While the latter often desires pneumatics or modified solid tires the former is in

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favor of the old fashioned solid tire. The reasons are simple enough; on building jobs there usually is a scattering of broken glass and metal lying about on the ground, through which the delivery truck must travel, with consequent damage to pneumatic tires. And of course changing tires is a time waster for busy dealers. But even with solid tires a good deal of care is required to watch for bits of glass, nails and such objects in the rubber, in order that they may be promptly removed before they have resulted in bad tears. It is a noteworthy fact that many lumbermen report that they have always received service from tires much in excess of makers' guarantees, in spite of the severe conditions under which they operate.

There are several good reasons why the motor truck is expanding business for the retail lumberman. People in cities are buying lots out in the country, and the dealer is able to keep in touch with them and to continue to serve them by virtue of his motor delivery equipment. Farmers are always improving their buildings and facilities, and with the dealers' new types of plan service the farmer is his customer just as surely as is the city dweller. The man with the motor truck even can serve the residents of towns at some little distance. In the old days he shipped such orders by local freight and the receiving party was obliged to use his own team or hire one to bring the goods to his place. Nowadays he sends his motor truck out with the stuff and not only improves the delivery time over local freight by several hours or even days, but he saves his customer a hauling charge as well, or if he does not absorb this charge in the selling price of the materials he receives the payment for the hauling instead of letting it go to another.

It is said that the motor truck gives the retail dealer an advantage over the mail order houses which have sprung into being during the past decade with their advertised ready-cut houses and similar items of trade which compete with the retailer. The mail order house can only lay down its goods at the freight station, while the motor truck owner can carry them to the buyer's door. The speed with which orders can be delivered by the man with the motor truck is one of the greatest business holders known to the trade. The machine user can promise deliveries within twenty-four or forty-eight hours, and then can make good. And by consistently making good he builds up a prestige and good will that operates to nullify such sordid considerations as mere price, assuming, of course that his products are good and that he fills his orders with care as well as speed.

Crankcase Lubrication Demonstrated

A recent test showed that to prevent excessive engine wearing crankcase oil should be changed at least every 1,500 miles, preferably every 1,000 miles. A new engine that was run 6,000 miles with oil changed at proper intervals, upon being disassembled showed no signs of wear. The same engine, reassembled and run 6,000 miles with old oil plus new oil as needed, upon inspection showed a wear of 0.015 inches. Motor truck and passenger car manufacturers recommend, for better performance and longer life, that crankcases be drained every thousand miles, the engine flushed with kerosene and new oil added.

Napoleon Truck, Fitted as Office, Accompanies International Tour

W. C. Waughop and J. O. Peet, the former sales manager for the Mohican Motors Corporation, New York, and the latter, representative of Napoleon Motors company, Traverse City, Michigan, turned back from Buffalo with the Napoleon office truck to participate in the International Good Roads Tour of the Michigan Pikes Association which left Detroit, July 14, for

Interior of office truck.

a run of 1,346 miles through Canada and Michigan. In combination with the Napoleon Motors company, the Mohican Motors Corporation, eastern distributers of Napoleon motor trucks, donated the office truck for the use of Eddie Edenburn, general manager of the tour.

This office truck has inside measurements of 12 feet 7½ inches by 5 feet 2½ inches, and a clearance inside of 6 feet. It is fitted up in regulation office style with desk, typewriter and all office requirements and is pneumatic tire equipped. The windows are of street car type permitting of lowering of the entire sash. Army cots are neatly carried underneath for the accommodation of the occupants who are not forced to seek hotel accommodations. They carry with them their complete office and living requirements as well. The truck is electrically lighted with the lights located in the dome, and in the handsome and commodious cab of the driver. Everything is compact, and the builders took into account every convenience which might be required in the lengthy trip through which this 1½-ton model will travel. At the close of the tour Mr. Waughop and Mr. Peet, will reship from Detroit to Buffalo and continue their business trip through New York State and New England, and other eastern states calling upon the trade and closing distributing agencies in all of the eastern country.

Toledo Truckmen Study Costs

Solving the mysteries of cost accounts as a means of greater efficiency and profits in their business has become less burdensome to Toledo truckmen since the Hi-Ways Transport Association has come into being in that city, they report. The association, of which many of the truckmen are members, conducts classes in which all the intricacies of the National Standard Truck Cost System are made clear. The association has added to its usefulness recently by forming a corporation which will operate a truck terminal in Toledo.

Duplex Governor Company Changes

Oscar Mautner, who for several years was secretary and assistant treasurer of the Duplex Engine Governor Company, Inc., Brooklyn, New York, at a recent meeting of the board of directors of the company was elected to the office of secretary and general manager. J. Parke Channing is to succeed the late Mr. Douglas as president of the company. Wait Talcott succeeds Mr. Channing as vice-president.

Well equipped office on wheels.

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Motor Truck Does Work Of Three Teams

New York City Firm of Haulers Finds Horses Inefficient Even for Short Trips

IN the general trucking business you must give your patrons service. This is only possible to-day through the use of motor trucks—horses are too slow, too unreliable and inefficient, for general trucking and heavy hauling.

"We have no prejudice against horses," declares S. Apple, of Apple Brothers, truckmen, New York City. "We have been in the business for twenty-two years, and for years operated horses entirely. At first horses were satisfactory, but with the growing demand for more speed, motor trucks became essential to insure our customers quicker and more prompt delivery. Now we have only three teams of horses left; and when these horses wear out they will not be replaced. They are no longer efficient for our work, even for short hauls.

"In hot weather, when the city streets are stiflingly hot, it is virtually impossible for a horse to be over 50 per cent efficient. The drivers suffer too, and are not up to their usual standard, because of their slow trips through the hot streets. Horses are also unreliable if the streets are icy, because there are a number of hills in New York City. In making these hills on slippery pavements the horses often fall down and may easily break a leg. That means the total loss of the horse.

"To illustrate the difference in speed, a motor truck can make three deliveries a day from the freight terminals to 150th street. The distance is 8 miles, or sixteen miles for the round trip. With the present day operation of horses, it takes one team a whole day to make this delivery. In other words, the motor truck does the work of three teams.

"During the recent railroad strike, the value of motor trucks for general hauling became especially apparent. Our Selden power wagon was used for hauling meat to Wilkes Barre, Pa., a distance of 336 miles. The trip required five days, and would, of course, have been out of the question with horses. But the motor truck met a serious emergency and helped one of our customers to hold his trade. This is an unusual case; but it is very common for the machine to make hauls of 50, 75 and 100 miles outside the city.

"We purchased this 3½-ton motor truck in November, 1919. It is used principally for hauling meat from the railroad stations to the meat markets. It operates 10 hours a day, averaging approximately 3 trips a day. So far it has worked every day except Sundays and legal holidays. On each load it carries from 30 to 35 barrels, weighing anywhere from 4 to 6 tons, depending upon the nature of the haul. We do not consider this overloading, providing the pavement is good and there are no unusual hills. All our work is definitely laid out in the office, so we know just about where the driver is at any time. Then if we want him to sandwich in an additional job, we can usually locate him on the 'phone. This helps us to take care of emergency calls; and also to keep the motor truck working full time.

This motor truck has worked every business day since it was bought last November, travelled 4,300 miles, and not cost us one cent for repairs. We have charged $1,060 overhead against it, because, as we are only in the trucking business, all overhead must be charged against equipment. Our costs are figured on the basis of the National Standard Cost System."

Summary of operation of Appel Brothers' 3½-ton motor truck from November, 1919 to May, 1920 (5½ months).

AVERAGE COST.

Cost per day (including driver)	$ 22.37
Cost per mile	.7073
Total cost for period (5½ mo.)	6,053.71

OPERATION.

Days operated	136
Miles traveled	4,300
Miles per day	31.62
Miles per gallon of gasoline	5
Miles per gallon of oil	200

ITEMIZED COST.

Driver cost per day (included above)	$6.50
Depreciation per mile	.0979
Maintenance and repair, actual total	.00
Maintenance and repair, actual per mile	.00
Maintenance and repair, estimated per mile	.0622
Tire cost per mile, estimated	.0625

I. H. C. Truck Program Includes New 1,500-Pound Speed Model

CHICAGO, ILL., July 23.—It was announced recently that the International Harvester Company is to erect at Fort Wayne, Indiana, the largest motor truck plant in the world to increase its motor truck manufacturing schedule. It is now known, also, that other of this company's plans, which have long been under advisement for enlarging International motor truck manufacture have now come to a decision. The company will add a new power wagon to its lines, known as the Model S Speed Truck, and the big works at Springfield, Ohio, will be turned over to the exclusive production of this new model. Although business in International motor trucks has increased 1500 per centum since the year 1914, a sensational growth in itself, it is estimated that the development of this new model will double the company's production as soon as capacity can be reached.

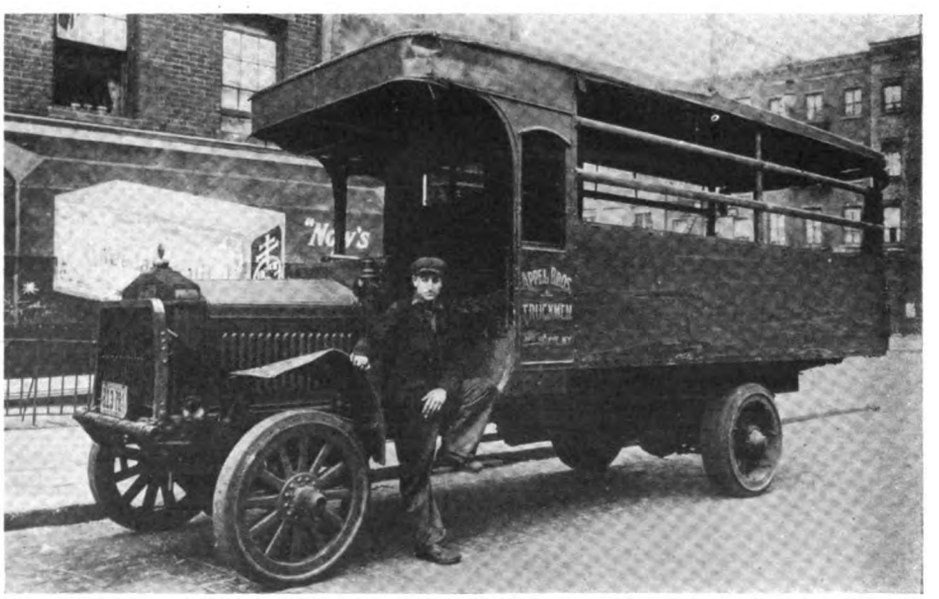
The Model S International will be a 1,500-pound capacity machine, 115 inch wheel base, equipped with 34 by 5 pneumatic truck cord tires and electric lights and starter. The list price of the chassis will be $1,000 f. o. b. the factory. The model will be assembled from approved standard units and will have an average speed of from twenty-five to thirty miles an hour. The first sample models are still being grilled ruthlessly by International engineers under the severest carrying and road tests which can be devised for developing strength and disclosing weakness.

Horse's Work Value

(Continued from page 52)

nothing to do but to enjoy themselves, while we are used only for a life of toil, mutilated as colts to make us more manageable, over-worked and abused throughout our life in doing work which an engine could do better and cheaper, and then, to pinch a few more pennies from our bodies, our owners are urged to make us hunt our living from waste products and thrash around the fields, and this at the coldest season of the year. Some friend of ours, this writer. I wish I had him at leg's length for about one second, and I promise you he would hit the ground just as hard as I did when I read his four pages of misstatements."

The motor truck men have been demonstrating lately in various parts of the United States that a railroad strike does not necessarily mean absence of transportation.



This truck does work of three teams.

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Transportation Engineering

By C. C. FRAME

Chief Transportation Engineer, Service Motor Truck Company

THE primary interest of the progressive motor truck manufacturer is to build good motor trucks. The main concern of the user should center in obtaining the best results from them. But the motor truck user and builder both profit from the same result—transportation—and it is only natural that the progressive builder recognize this common interest and seek to promote the usefulness of his product in the hands of its owners by placing at their disposal a Department of Transportation Engineering.

The only purpose of engineering is better results. It is not interested in the sale of anything. Rather, it endeavors to predetermine the advisability of any purchase and improve existing means and methods. Engineering invents, investigates, and recommends impartially, and from conclusions founded on fact. No details are too small for its consideration. It is successful according to the soundness of its advice to the interests it would serve. Transportation Engineering is no exception to these rules and seeks to serve the common interest of motor truck user, builder and public by promoting more successful truck use. All enterprise has been assisted to a high state of development by engineering in some form. This is notably true of motor truck building and will prove equally true of motor truck use.

A superior motor truck, although essential, does not insure superior transportation. Much depends upon the motor truck's application, its adaptability to the work it is to do, and the conditions surrounding its use.

This is evidenced by the varying results obtained by motor truck owners, also the fact that most motor trucks are rendering less than 20 per centum of their transportation ability.

Competent authority estimates forty years will be required to develop highway transportation, by motor trucks, to its highest state of usefulness. This indicates much work to be done and it is well to analyze our present position in the light of improvements possible from a transportation engineering point of view.

Many good motor trucks are capable of operating, under fair conditions, almost continuously for from one to two hundred thousand miles. By almost continuously we mean twenty hours a day, six days a week, two hundred and eighty days a year, and by operating we mean with loads approximating capacity. This is about all that should be expected of the motor truck from a standpoint of continuous performance, and is an achievement all the more appreciated when compared with other means of locomotion. In the hands of its owners, the best motor truck's average performance with load is usually four hours or less a day, six days a week, two hundred and eighty days a year. This is a motor truck usefulness of 20 per centum of its continuous performance ability.

The remedy lies in improved loading and unloading facilities, return loads and arrangements for steady work. Good motor trucks are also capable of safely operating at high average speeds. A 2-ton machine, for instance, properly equipped is capable of maintaining a speed of eighteen to twenty miles per hour.

The majority of machines at present operate at half or less this possible speed. This means that present day motor truck usefulness is further cut in half by conditions restricting motor truck mobility. The remedy for this lies in suitable roads and traffic arrangements, alert motor truck masters or drivers, and careful routing.

For each motor truck purchased, from eight to ten times its original cost is usually required in operating expenses, including driver's salary, etc., before the machine is worn out. Of course, any profitable expenditure may be justified but this very large expenditure spread over a number of years offers considerable opportunity for waste. That such waste does occur is apparent every time proper cost and performance records are kept. "Errors uncovered are one-half destroyed," and invariably where proper records are kept and studied, many ways of economizing appear.

Good motor trucks are capable of moving many times their rated carrying capacity on good level roads. A 2½-tonner, for instance, designed to carry capacity load up steep grades, over poor roads, is easily capable of moving one hundred and twenty-seven tons on level asphalt at two and one-half miles per hour. This is a condition that can sometimes be taken advantage of profitably by the use of trailers, but only after thorough and competent engineering investigation.

The foregoing are some of the lines along which motor truck usefulness can be greatly improved by Transportation Engineering with the full coöperation of motor truck users. Any attempt at improved transportation should begin with a survey of all the conditions affecting the accomplishment of the desired result; and next through selection of the vehicle having the qualities best able to meet the conditions.

There are three major transportation qualities built into motor trucks which must be understood and varied, for economy and efficiency, according to the requirements determined by the survey. These qualities are power, speed and carrying capacity. This would mean little to the motor truck buyer if his interests were not safeguarded in some way, and it is the aim of transportation engineering to assist motor truck buyers in the analysis of their conditions and the proper selection of a machine.

Popular assumption is that all motor trucks of the same model and make have the same transportation qualities. But, as a matter of fact, these qualities are often combined in many different ways for the same model. The line of one prominent motor truck manufacturer now comprises eighty different combinations of these qualities from which to choose the machine having just the right carrying capacity, right speed, and right power to meet the individual requirements of the user. Minor qualities such as body equipment, ability to get traction, etc., also have much bearing on successful motor truck use, but will not be discussed here.

A transformation to 100 per centum usefulness is not possible in a day. Motor trucks and their usefulness are a part of the unfoldment of our great national progress. Civilization has never risen higher than its transportation facilities. Motor truck usefulness will rise in efficiency according to the demands made upon it. In proportion as motor truck owners cease to look upon their machines as a convenience, a means to an end, a method of hauling for less; and see the motor truck in its true light, a great business asset, capable of greatly increased returns, so does the motor truck come into its own economically and commercially, and its owners greatly prosper.

Daily, new fields for motor truck employment are appearing and the factors governing their successful use becoming more complex. The progress of highway transportation development is as irresistible as our national growth. Transportation and commerce will continue to overflow their former restricted courses until they have permeated every undeveloped and semi-developed portion of our country, raising all to the same high level of civilization and culture.

That the motor truck does not now render 100 per centum usefulness is not the fault of the motor truck as a machine. Through engineering it has been developed to its present high state of mechanical efficiency and through engineering its maximum usefulness shall be achieved.

Miners Ride in Truck

Peeved because the municipal street railway line at Lincoln, Illinois, was not extended the coal mine north of the city as promised, thirty coal miners have chartered a motor truck and are utilizing it for transportation from their homes to the mine and back. Each morning the machine makes a call at every home and hauls the miners to the shaft, and each evening returns them to their homes.

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Parker Company Standardizes on Three Models Motor Trucks

During eight years in the manufacture of motor trucks the Parker Motor Truck Company of Milwaukee, has been seeking to standardize and minimize the number of models offered to consumers. At different times this company has placed on the market 1½-, 2½-, 3-, 4- and 7-ton sizes, but these models were eliminated after an exhaustive study of their possibilities. It was found that these sizes, with the possible exception of the 1½-ton, covered only a very small portion of the range required to satisfy the large number of motor truck users. On the other hand, it was found during these eight years, that the 2-, 3½- and 5-ton sizes cover the desired range nicely.

As a consequence, the Parker company is concentrating exclusively on models in 2, 3½- and 5-ton sizes. There are a number of advantages claimed in this standardization of models.

Aside from satisfying the user, it enables the distributer to take care of the maximum volume of motor truck sales while carrying but three models on his sales floor and as many of the parts on these models are interchangeable, the distributer has a minimum parts investment with less space devoted to parts stock. The production of motor truck parts is also cheapened and production is facilitated by the elimination of different sizes of parts.

It is the opinion of the Parker company that 2-, 3½- and 5-ton models will be universally adopted as standard models by the majority of motor truck manufacturers in the near future.

These three Parker models are using the Parker full floating worm gear axle of 3 piece electric cast steel construction and Timken taper roller bearings throughout. A Bosch high tension magneto and the Westinghouse two unit starting and lighting system are used. The engine is a super-military type Wisconsin. Oil is pumped by means of a gear pump and is forced under 20 pounds pressure to all main bearings then to the crank shaft, to connecting rod bearings, and to piston pin bearings. Latest type of Monarch governor is used, being bolted between carbureter and inlet manifold. The Parker cast radiator (frame in section) with staggered vertical tube core is mounted with ball and socket joints protecting it from vibration and frame distortion. Power is transmitted from the engine through a multiple disk Brown-Lipe clutch with all working parts enclosed. The Warner transmission is of the 4-speed selective type equipped for power take-off, and motor driven tire pump.

New Available 1½-ton Commercial Wagon.

Power is carried to the rear axle through tubular propeller shaft with Thermoid joints between clutch and transmission and Blood joint between transmission and rear axle. The steering gear is the Ross worm and nut type. Chassis points requiring lubrication are cared for by the Alemite System.

Available Now In Production on 1½-Ton Model Commercial Wagon

The Available Truck Company, of Chicago, manufacturers for over 35 years, recently started in production with a motor truck of 1½-ton capacity known as the Commercial Wagon. The new model was designed with an eye on the requirements of the average farmer, manufacturer, and numerous other concerns having use for a machine of light capacity.

The design of this motor truck embodies many refinements in detail. The radius rod construction, is used as it was decided that it will more effectively take the drive, leaving the spring to perform their own particular function, and also to handle the tongue of the axle.

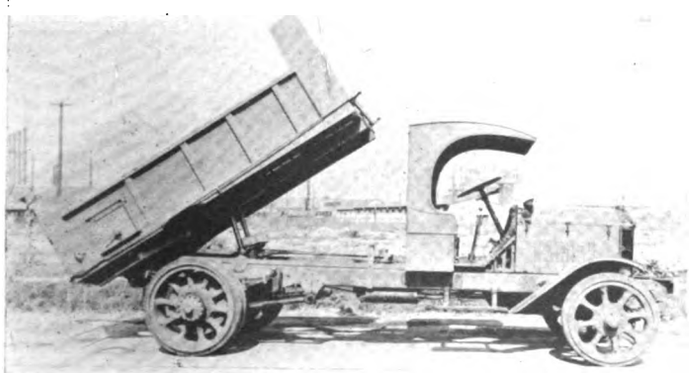
The engine is Available-Hercules design, Model CU3, with a multiple disk dryplate clutch, enclosed in dust proof housing attached to motor, and four speed transmission. The engine has a bore and stroke of 4 by 5⅛.

The transmission is of the constant-mesh individual clutch type with four speeds forward and one reverse, and is mounted amidship. The gears are all chrome nickle steel, and are mounted on annular ball bearings.

The final drive is through a worm and gear axle with a ratio of 7.25 to 1. The drive shaft of this axle is 2⅜ inches in diameter and is made of chrome nickle steel.

Power is transmitted from the engine to the rear axle by two separate tubular propeller shafts provided with four universal joints. Two in front and two in rear.

A one inch carbureter is used. Control of choker for starting is mounted on the dash convenient to driver. Ignition is provided by a Bosch high-tension magneto. The spark is controlled by a lever on the steering gear. The cooling fluid is circulated by a large centrifugal pump. The radiator is of a vertical finned tube type. The tubes are of oval section preventing



Parker 5-ton model M-9.

Parker 3½-ton Model J-9.

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damage by freezing. It is mounted on springs to absorb all vibration. The chassis is lubricated by the Alemite system.

The frame is of rolled channel steel of Available make. It is re-inforced by six cross members and strengthened by heavy gusset plates. All castings and brackets are either cast or forged steel, and are hot riveted to frame. Heat treated alloy steel springs are used. The front measuring 40 by 2½, at the rear 50 by 3. The eyes are bronze bushed and ⅞ spring bolts are used. The front axle is a drop forging with Timken roller bearings. The steering gear which is mounted on the left side, is an irreversible worm and nut type with a 20-inch steering wheel. The wooden wheels are equipped with 36 by 3½ front and 36 by 5 rear tires.

Diamond T Announces New Model "K" Motor Truck of 3½-tons

The Diamond T Motor Car Company, of Chicago, offer a new model 3½-ton motor truck, Model K. The cylinders are cast en bloc to get maximum strength and rigidity. Removable heads allow easy access. Complete water jacketing of valves and cylinders provides unusual cooling—and economical operation results. The crankshaft is made of chrome-nickel steel, specially heat treated, and drilled for forced lubrication of crankshaft bearing surfaces. The design, material and workmanship that go into this motor eliminate, it is claimed, to a very great degree, all vibration.

Axles:—Front—Drop-forged 1-beam section. Rear—Worm gear drive, full floating type; *Carbureter:*—Stromberg; *Brakes:*—Double internal on rear wheel; *Chassis Weights:*—Front, 3,425; rear, 3,825—total, 7,250; *Clutch:*—Multiple disc; *Control:*—Levers for gear shift and emergency brake in center; left-hand steer; *Equipment:*—Seat, extra heavy fenders, running boards, governor, hub-odometer, oil side and tail lights, warning signal, complete set of tools, and jack; *Frame:*—Pressed steel channel section, 9 inches; width of flange, 31'4 inches; thickness of stock, 1'4 inch; *Gasolene Capacity:*—Twenty gallons. Vacuum feed, tank under seat; *Ignition:*—Bosch magneto; *Engine:*—Main-frame three-point suspension; special mounting; four cylinder; four cycle; 45 maximum horsepower, 28.9 S. A. E. Bore, 4½ inches; stroke, 5½ inches. Cylinders cast en bloc, removable heads. "L" head type. Valves all on one side. Complete water jacketing of valves and cylinders; *Radiator:*—Fin and tube construction. Water circulated by means of centrifugal pump on motor; *Drive:*—Perfected Hotchkiss drive; *Springs:*—Every leaf Chrome-Vanadium steel. Front, semi-elliptic, 8 leaves, 3 inches wide, 46 inches long. Rear, semi-elliptic, 14 leaves, 3 inches wide, 56 inches ing; *Steering-Gear:*—Worm and wheel type; *Tires:*—Front, 36 by 5 single. Rear, 36 by 5 dual; *Transmission:*—Four speeds forward and reverse. Selective type. Set amidships; *Universal Joints:*—Thermoid-Hardy type are used; *Wheel Base:*—170 inches and 180 inches, also 160 inches for dump body; *Wheels:*—Cast steel wheels; *Lubrication:*—Alemite high pressure lubricating system.

Cities Adopting Trailers For Removal of Garbage

OPERATION EQUALS THIRD OF FORMER COST

A contract for the purchase of thirty trailers and three tractors has been made by the Department of Public Works of the City of Syracuse, New York. The equipment is to be used for collection and removal of garbage, investigations having shown this to be the best and most economical method of handling this municipal problem.

Following the example of Utica, New York, and several other cities, San Antonio, Texas, after thorough investigation, adopted motor trucks and trailers for garbage disposal some time ago. It is now operating twelve motor trucks and twenty-four trailers.

Trailers used by these cities are of the drop-frame, side-dump type, of 3-tons capacity. The trailers are usually drawn by teams of horses for house to house collection and when loaded are drawn by the motor trucks or tractors to a dump or piggery several miles outside of the city. While some of the trailers are being hauled out and back, other trailers continue the work of collection in the city and are fully loaded when the machines return with the empty trailers.

San Antonio is saving between $25,000 and $30,000 a year by this system, or one-third of the former cost. When it was installed the city had a population of about 125,000 and was using 48 teams and wagons for the work. They were hired at $3 a day each and worked an average of 26 days a month, making a total expense of $3,744 per month. Since motor trucks and trailers were installed, the population has increased to about 200,000, yet the expense has been reduced from the old figures. Incidentally, the work is done more rapidly and with more satisfaction to the public.

Reynolds Line of Motor Trucks Lays Claim to Full Equipment

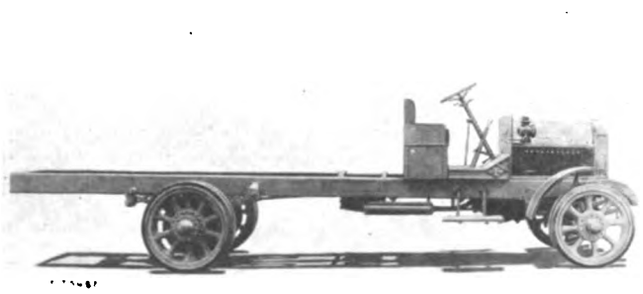
The Reynolds line of motor trucks now being produced by the Reynolds Motor Truck Company of Mt. Clemens, Michigan, is built in four sizes with solid tire equipment—1½-, 2½-, 3½- and 5-tons capacity and for fast express service with giant cord pneumatic tires, in three models—1½-, 2-, 2½-, 3- and 3½-tons. The founders and executive officers of the company are among the very oldest men connected with the motor truck industry and in this their latest design, they lay claim to the highest grade and quality product.

The only carbon steels used throughout the vehicles are in worm axle housing and rolled channel frame, the latter being heat treated. Elsewhere nothing but 3½ per cent nickel steel is employed even down to the brake rods and shifter rods of the transmission. In place of the usual malleable iron members, steel castings are a Reynolds feature and drop steel forgings take the place of castings which have heretofore been utilized. The matter of friction reduction has been carried to the limit through the use of Bound-Brook graphite bronze bushings which are inserted throughout the design wherever the slightest degree of rotative movement takes place.

Each size vehicle is identical in design and construction, varying one from another only in the matter of proportion and power. In equipment, the manufacturers have included as a standard part of each chassis, every necessary item required but the body. This equipment, regardless of the carrying capacity of the machine, includes the following, hub odometer, steel wheels, heavy front bumper, massive radiator guard, Moto-Meter, front fenders, generator, self-starter, battery, electric lights, all steel cab with drop glass windows, towing hooks, spring draw-bar trailer connection, heavy jack and a set of tools.

Cities Displace Horses for Grading

Central Illinois cities are buying tractors for road grading, which are equipped with rubber tires so that they will not damage pavements. The tires are of block construction. Clinton and Springfield are among the places that have bought rubber tired tractors and others are conducting an investigation and making tests. There is a general feeling that horses should be abandoned for hauling the heavy grading outfits and that tractors should be substituted because of the lesser expense.



Model K, new 3½-ton Diamond T.

Standardized Reynolds motor truck.

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Motor Trucks on Eastern Farms

Opinions of 753 Farm-Owners as Summarized by Office of Farm Management of Department of Agriculture Do Not Show True Economic Value of Trucks

WASHINGTON, D. C., July 24.—"What do you find to be the greatest advantage of owning a motor truck?" Of 753 farm owners of motor trucks who were asked this question by the United States Department of Agriculture, 91 per centum said "saving time." About 25 per centum of these men had found better markets since buying their motor trucks, but 50 per centum of them had not cut down the number of their work stock by as much as a single head, while less than one man in ten had cut down his work stock more than two head.

"Which merely goes to show," says a department specialist in farm power, "how difficult it is to arrive at a definite conclusion in a matter like this motor truck study we have just completed. It would certainly appear that any saving attributable to the motor truck on the farm is in time saved rather than in expense. Most of these men think that the profits accruing from the saving in time more than overbalances any extra expense entailed by the use of the motor truck. It is significant that the majority of these farmers are located a considerable distance from market, more than four-fifths of them being five miles or more from their shipping points, and the saving in time effected by their use of motor trucks is naturally greater than it would be on the average farm, which lies nearer to market than do most of the farms concerned in this investigation. The experience of the 753 farmers who have contributed to this study should enable the farmer himself to judge with a fair degree of accuracy as to whether the motor truck would prove advantageous under his conditions."

THE investigation in question was made during the past winter and spring. Farmers in the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, and Indiana, who have motor trucks for use on their own farms, were asked to report to the department the types and sizes of their farms, the use they made of their motor trucks, the cost of operating them, the advantages and disadvantages of motor trucks for farm use, and other related information.

A study of the reports of 753 of these farmers has just been completed by the Office of Farm Management and Farm Economics. The farms which these men operate are of all sizes and types, and the motor trucks are of all sizes, from ½- to 5-tons. The rated capacity of very few of the motor trucks is greater than 2 tons, however, and nearly half of them are of the 1-ton size.

Among the important facts revealed by the investigation may be mentioned the following:

Only 18 per centum of these farms are less than 5 miles from market and nearly one-fourth of them are 20 miles or more from market.

Ninety-five per cent of the farmers believe that their motor trucks will turn out to be profitable investments.

One-ton machines are preferred by more men than prefer any other size. About half of the owners of ½- and ¾-ton motor trucks prefer sizes larger than they now own.

In the opinions of these men the principal disadvantage of a motor truck is "poor roads."

As compared with horses and wagons, the motor trucks save from one-half to two-thirds of the time required for hauling materials to and from these farms.

These farmers have return loads for their machines about one-fourth of the time.

A majority of them still use their horses for some road hauling.

On the majority of the farms all the hauling other than road hauling is done with horses and wagons.

ABOUT one-fourth of the men do some custom hauling with their motor trucks. The average amount received per year by those who do such work is $174.

On the average there are about 8 weeks during the year when the roads are in such condition on account of mud, snow, etc., that these motor trucks can not be used. The roads on which three-fourths of them usually travel are all or part dirt.

About one-fourth of the farmers have changed their markets for at least a part of their produce since purchasing motor trucks. For those who have changed markets, the average distance to the old market is 7 miles, and the average distance to the new market is 20 miles.

The owners estimate that, on the average, their machines travel 3,820 miles per year and are used on 173 days per year.

The average life of the motor trucks is between 6½ and 7 years, and in most cases, depreciation is the largest single item of expense in connection with their operation.

Most of the owners of ½- and ¾-ton machines prefer pneumatic tires, the owners of 1-ton motor trucks are about evenly divided in their preference, and most of the owners of larger than 1-toners prefer solid tires.

Over two-thirds of the machines had not been out of commission when needed for a single day during the year covered by the report, and nearly the same proportion of the owners stated that they had not lost any appreciable time on account of motor and tire trouble, breakage, etc. However, about one motor truck in thirty had been out of commission ten days or more.

The average cost of operation of the ½-ton machines was about 8 cents per mile; of the ¾-ton about 13 cents; of the 1-ton about 12 cents; of the 1¼- and 1½-ton about 19 cents, and of the 2-ton about 20 cents.

The average cost of hauling crops, including the value of the driver's time at 50 cents an hour, was about 50 cents per ton-mile with the ½-tons, 34 cents with the ¾-tons, 26 cents with the 1-tons, 24 cents with the 1¼- and 1½-tons, and 18 cents with the 2-tons.

About four-fifths of the men state that their motor trucks decrease their expense for hired help. On the average they estimate that this decrease amounts to $324 per year.

Over half of the 205 owners whose farms contain more than 120 crop acres own tractors. The number of work stock kept on the farms where both motor trucks and tractors are owned is only slightly less than the number kept on farms of corresponding size where only motor trucks are owned.

Lone Star State Enthusiastic Over Ship-By-Truck Bureaus

The ship-by-truck campaign in Houston and Southeast Texas is getting results. One of the results is the establishment of a motor truck terminal in Houston in the heart of the wholesale district. The terminal will afford a central depot for 11 ship-by-truck lines, whose routes radiate in all directions from Houston.

The motor trucks are carrying into the city vast quantities of cream, butter, eggs and potatoes—part of it the gleanings of the farms, which without the motor express service probably would go to waste or to the feeding of the hogs—and are taking back to the farmer his requirements in furniture, farm machinery, groceries and other necessities of life. The terminal will be the central station from which incoming loads are to be distributed throughout the city, and at which outgoing loads will be assembled.

Since the establishment of the bureau great interest has been aroused in Texas in the ship-by-truck movement. New operators are coming into the field each week as new possibilities unfold themselves. With such a terminal in successful operation operators predict that by next spring there will be a network of motor truck freight and express routes connecting Houston with practically all the larger cities and towns in Texas.

Wholesalers and other shippers may deliver their merchandise at the terminal platform. This merchandise is in turn sorted and distributed to the rural express operators. In a short time it has started on a rapid and uninterrupted course to its country destination.

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Laws Dead, Passed and Pending

Report of Motor Vehicle Conference Committee on Legislation Affecting Operation of Power Wagons and the Automotive Industry Generally

PART III

THROUGH May 28 of this year the legislatures of eleven states—Kentucky, Louisiana, Maryland, Massachusetts, Mississippi, New Jersey, New York, Ohio, Rhode Island, South Carolina and Virginia—had convened in regular session and considered a total of eight hundred and fifty-two bills which, directly or indirectly, affected the motor truck. Of these states all but Louisiana, Massachusetts and New Jersey had finally adjourned prior to that date, and the last two states mentioned were then within sight of an early close. Georgia alone remained to hold a regular session this year, being scheduled to convene on June 2.

On the other hand thirteen states—Arizona, Arkansas, Delaware, Idaho, Indiana, Kansas, Nevada, New Mexico, Oklahoma, Oregon, Washington, West Virginia and Wyoming—had met in and adjourned special sessions prior to May 28, but only four of them, Arkansas, Delaware, Kansas and Oregon, took up motor vehicle measures, which aggregated a total of sixty-one bills. In addition the legislature of Texas had assembled in a special session and was free to consider motor vehicle legislation.

Following is a list of the more important motor truck measures which have become laws in the states enumerated. Wherever known the chapter number of a measure is given together with the introductory number of the bill from which it has been derived.

Kentucky

Rear View Mirrors.

Requires rear view mirrors on motor trucks. Chap. No. —— (H. B. 98).

Registration Fee; Size and Weight Limits, Etc.

Establishes a new schedule of registration fees to go into effect on December 2, 1920. Motorcycles.....$10 per annum
Passenger automobiles..60c per horsepower
Trucks—Fees based on capacity as follows:

1,000	pounds or less		$ 22.00
1,001	to	2,000	30.00
2,001	to	3,000	40.00
3,001	to	4,000	50.00
4,001	to	5,000	60.00
5,001	to	6,000	70.00
6,001	to	7,000	90.00
7,001	to	8,000	110.00
8,001	to	9,000	130.00
9,001	to	10,000	150.00

10,000 and over, $150 plus $50 for each additional ton.

Dealers—$25 for registration and one set of plates. Extra plates, $1 per set.

The law also provides that no vehicle whose gross weight exceeds 15 tons shall be operated upon the public highways without special permission. This gross weight must be so distributed that the maximum weight per inch width of tire in the case of iron or steel tires does not exceed 500 pounds, and for solid rubber or rubber-compounded tires 800 pounds. In addition, every truck and trailer must be marked conspicuously with its load capacity and no vehicle may haul more than two trailers. Chap. No. —— (H. B. 323).

Tax on Gasolene.

Imposes tax of two cents per gallon on gasolene sold at retail. Chap. No. —— (H. B. 415).

Maryland

Changes in Motor Vehicle Laws.

Makes numerous changes in the motor vehicle laws. Term "motor vehicle" is expanded to include trailers and semi-trailers; cost of extra sets of registration tags for manufacturers and dealers increased from $12 to $15; reciprocal privileges denied to non-residents engaged as common carriers wholly or partly in the state; rear view mirrors required in certain cases; new set of lighting provisions adopted; gross weight of vehicle and load limited to 10 tons, and, in addition, "no motor vehicle shall be operated with a greater load than that for which a registration certificate has been issued and fee paid." Effective June 1st, 1920. Chap. No. 506 (S. B. 389).

Motor Vehicles as Common Carriers.

Classifies taxicabs and other motor vehicles used in the public transportation of passengers as common carriers and makes them subject to the Public Service Commission laws. Chap. No. 677 (H. B. 546).

Sabbath-Breaking.

Relaxes the Sabbath-breaking laws to enable the sale, among other things, of gasolene, oils and greases on Sunday. Chap. No. 700 (H. B. 29).

Massachusetts

Registration Plates.

Allows motor vehicles and trailers which are commonly operated in Massachusetts and in an adjoining state to display the registration plates of both states. Chap. No. 432 (H. B. 105).

Snow Removal.

Authorizes the Department of Public Works to co-operate with city and town authorities to keep certain highways open and reasonably passable during the winter months of 1920 to 1921 and to spend $50,000 for the purpose. Passed both branches of the Legislature; not yet signed by Governor. Chap. No. 488 (S. B. 385).

Trailers.

Provides Motor Vehicle Law with definition of term "Commercial Trailer." Chap. No. 476 (H. B. 1647).

Mississippi

Registration Fees.

Increases the registration fees for motor vehicles, effective April 30, 1920. There is hereby levied the following annual privilege taxes for the privilege of using the public roads or streets as follows:

On each commercial motor vehicle:

	Per annum.
For one ton or less carrying capacity	$ 10
For one and one-half ton capacity	15
For two ton capacity	30
For two and one-half ton capacity	35
For three ton capacity	55
For three and one-half ton capacity	75
For four ton capacity	115
For four and one-half ton capacity	155
For five ton capacity	200
For six ton capacity	250

More than six ton capacity, per ton, $75 per annum, not to exceed $300.
On each motorcycle, $10 per annum.
On each motor vehicle, fifty cents per horsepower, provided that the minimum license fee shall not be less than $5.
On each vehicle propelled by electricity, $15. Chap. No. 111 (S. B. 130).

Protection of Tires.

Makes it unlawful to break or leave particles of broken glass on highways. Chap. No. —— (H. B. 360).

Privilege Taxes on Business.

General revision of the privilege taxes on business. Chap. No. —— (H. B. 956).

Imposes privilege taxes on certain occupations and industries, including motor truck carriages and automobile accessories. Chap. No. —— (H. B. 957).

State Highway System.

Creates a State Highway Department and provides for the establishment of a state highway system. Chap. No. —— (S. B. 14).

New Jersey

Motor Vehicle Funds for Unimproved Township Roads.

Sets aside annually from the Motor Vehicle Fund $210,000 to provide state aid in "the proper construction, grading and drainage of unimproved township roads." Chap. No. 53 (S. B. 24).

New York-New Jersey Tunnel Agreement.

Ratifies the agreement between the State of New York and the State of New Jersey for the construction of a vehicular tunnel under the Hudson River. This agreement, among other things, authorizes the Interstate Bridge and Tunnel Commission upon the completion of the tunnel to make rules and regulations for its use and fix tolls which wil be adequate to amortize within 20 years the debts incurred for the tunnel. Chap. No. 76 (S. B. 165).

Regulation of Auto-Buses.

Empowers governing body of every municipality in New Jersey to license autobuses and regulate their operation. Chap. No. 89 (H. B. 248).

Lamps on Horse-drawn Vehicles.

Requires animal-drawn vehicles to carry lamps. Chap. No. 211 (H. B. 537).

Auto-Bus Bond.

Requires companies which go on the bond of any auto-bus company to deposit $50,000 in stocks, bonds or mortgages with the State Commissioner of Banking and Insurance. Chap. No. 213 (H. B. 236).

Investigation of Motor-Vehicle Traffic.

Authorizes and directs the Governor to appoint a so-called Motor Traffic Commission to investigate motor vehicle traffic regulations, license fees, etc., and prepare a uniform vehicle law for submission at the next session of the Legislature. Chap. No. J. R. 2 (H. J. R. 8).

$28,000,000 for Vehicular Bridge and Tunnel.

Subject to popular approval at general election; authorizes issuance of interstate bridge and tunnel bonds in amount not to exceed $28,000,000 to build vehicular tunnel under Hudson River and bridge over Delaware. Interest, sinking fund and other carrying charges to be met by general tax pending completion of improvements and collection of tolls. Chap. No. —— (H. B. 416).

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National System of Highways; Federal Aid.
Petitions U. S. Congress to establish a national system of highways and to continue and increase the present appropriations for Federal aid to States in their highway work. Chap. No. ——— (S. C. R. 3).

New York

Highway Maintenance.
Appropriates $7,500,000 for the maintenance and repair of improved state and county highways. Chap. No. 80 (S. B. 550).

Size and Weight Limits.
Limits over-all width of auto trucks and trailers to 8 feet and height from pavement to top of load to 12 feet 6 inches. The combined weight of vehicle and load is limited to 25,000 pounds, distributed so that there shall not be more than 800 pounds per inch width of tire. Chap. No. 189 (S. B. 182).

$10,000,000 for Highway Improvement.
Appropriates this sum from sale of bonds authorized by law enacted 1912. Chap. No. 670 (S. B. 1495).

Registration Fees.
Increases fee for the number plates to be issued on the registration or re-registration of an omnibus from $2 to $10. Chap. No. 683 (H. B. 635).

Registration Fees.
Makes "light delivery cars" subject to the same schedule of fees which now obtains for auto trucks. Chap. No. 687 (S. B. 491).

Federal Aid.
Appropriates $3,750,000 as New York State's share toward the cost of improving rural post roads under the Federal Aid Laws. Chap. No. 154 (H. B. 1064).

$1,000,000 for New York-New Jersey Vehicular Tunnel.
Appropriates $1,000,000 as New York State's share toward beginning the work of constructing the proposed Interstate Vehicular Tunnel. Chap. No. 892 (S. B. 1690).

Ohio

Registration Fees.
Increases the registration fees for motor vehicles as follows:

Each motor bicycle or motorcycle	$ 2.50
Each side car	1.50
Each passenger car of 25 horsepower or less	8.00
Each passenger car of 26 or 35 horsepower	12.00
Each passenger car of 36 horsepower or more	20.00

Each commercial car the horsepower fees plus 20c per 100 lbs. gross weight of vehicle and load or fractional part thereof. Each trailer the same tax based on gross weight of vehicle and load as provided for commercial cars. "Each manufacturer or dealer shall pay or cause to be paid a tax of $20 for each place of business in the State." On such registration they may secure "certified copies of such registration" and for each copy on the payment of $2 receive a set of registration plates. Chap No. ——— (H. B. 573).

Weight Limitations.
Limits gross weight of vehicle with iron or steel tires to 500 pounds, and that of vehicles having tires of rubber or other similar substance to 800 pounds for each inch of total width of all tires on all wheels. Chap. No. ——— (S. B. 105).

Oregon

$10,000,000 for Highways.
Authorizes a $10,000,000 bond issue for highways, the principal and interest thereof to be paid by any funds subject to the control of the State Highway Commission. Chap. No. 43 (H. B. 52).

Rhode Island

Snow Removal.
Appropriate $50,000 for removal of snow from State highways during 1920. Chap. No. ——— (H. B. 695).

Motor Transportation of the Near Future

By GEORGE D. WILCOX

Director of Sales, Commerce Motor Car Company

TEN years hence, looking into the future of the motor truck industry, many changes will be found. The street cars will have given way in the large metropolitan centers to the motor bus; the freight car will have been taken from its short haul work in favor of the motor van, the farmer will find his farm motorized with passenger car, motor truck and tractor. And the motor truck of the future will be of different design in many respects from the ones that we see to-day.

First of all, the motor truck will operate on pneumatic cord tires and this will mean change of design for a large number of manufacturers. The unsprung weight in the chassis necessary to stand the vibration, shocks and stresses of the solid tire, will be eliminated when the pneumatic cord tire takes its place. A motor truck must be designed with extra unsprung weight in its chassis to-day if the motor truck is to be driven on solid tires. To answer this argument one has only to think what would happen to his passenger car if he were to take off the pneumatic tires and substitute solid tires, the car would wreck itself quickly. Therefore, this factor of safety in a solid tire equipped motor truck must take the form of unsprung weight in a chassis and this extra unsprung weight cuts down economy of operation.

Capacity loads for motor trucks of 2 ton and over capacity must be carried in the quickest space of time, for the motor truck operator to return profits on the investment. Motor trucks of 2-tons and under capacity will not need as many changes as the larger sizes, but there will be some changes necessary. In the 2-ton and over capacity motor trucks, the passenger 'bus will require a body designed differently than what we have yet seen for this class of work. It must be set low to the curb on a chassis that may be a 3½-ton chassis with a 5-ton power plant and running with pneumatic cord tire equipment.

The street car must be eliminated from the main thoroughfares or the traffic problem cannot be solved in the metropolitan centers. Traffic deaths and accidents will continue until the problem is thus solved, as every day the additional delivery of passenger cars and motor trucks is increasing the difficulties of the problem.

At present traffic must wait until people cross to the middle of the street to board street cars, and wait until they get off cars and walk to the sidewalk. Therefore, the passenger 'bus must be designed to take on and let off passengers at the curb. Passenger 'busses not being confined to tracks can easily detour in case of traffic tieups, and they can at any time be added to new routes without waiting for rails. The man with vision can give hundreds of advantages for the passenger 'bus despite the fact that there are some who will argue against it, but like every other step in progress the time will come when the educational campaign will start and when it does the one with merit will win. Motorized passenger transportation is modern, it will be the ultimate ideal method of handling the passenger traffic and thus eliminating many evils. It must come, and it would be closer to the public now if the motor truck manufacturers had the time to devote to the education necessary to sell the public on its manifold advantages.

Short hauls on freight cars never did pay railroads. Then again the goods must be transported to the freight house and from there it must be handled four or five times before it reaches its destination. The government in Pennsylvania, Virginia, Maryland and Utah is proving the value of motorized transportation over railroads under the Post Office Rural Motor Express routes. The government is also watching the progress of the motor business and the time is coming when the main highways will be widened so that four streams of traffic can move over it—slow moving vehicles on the outside and faster moving vehicles on the inside. This would be started even now if the motor truck manufacturer's design of machines was changed faster to meet pneumatic cord tire equipment. Pneumatic cord tire equipment will allow the government to build roads of different construction than they had planned to build, with huge 5-ton motor trucks, or motor trucks with trailers and solid tires, operating over them.

South Carolina

Tire Protection.
Makes it a misdemeanor to place or leave broken glass, glass bottles, scrap iron, etc., on any highway in the State. Chap. No. ——— (H. B. 540; S. B. 616).

Negligence in Accidents.
Makes it unlawful for any person driving a motor vehicle which strikes any person to fail to stop and render assistance, and makes such failure prima facie evidence of negligence. Chap. No. ——— (H. B. 993; S. B. 589).

State Highway System; Registration Fees.
Creates a State Highway Department; provides for the establishment of a state highway system; increases the registration fees for motor vehicles and provides for the disposition of these fees. The following schedule of fees becomes effective January 1st,1921 :

For trucks:

	Per annum.
Less than two tons capacity	$ 15
Two tons and up to three tons	30
Three tons and up to four tons	50
Four tons and up to five tons	75
Five tons and up to six tons	150
Six tons and up to seven tons	250
Seven tons capacity and over	350

In addition provision is made that no truck larger than a four-ton truck shall operate upon the highways without a special permit. Chap. No. ——— (H. B. 1093).

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Truck and Trailer Haul Eighty Employees 8 Miles to Factory

The Beech-Nut Packing Company, of Canajoharie, has found it necessary to go to adjoining communities in order to find sufficient help to efficiently operate its factory. For a time the company was able to get along with a motor truck alone, but now the time has come when a greater capacity is needed and to overcome this, it is using an Arcadia trailer. The help is brought in from towns, four, six and eight miles distant from Canajoharie every morning and returned to their home towns at night.

The motor truck will accommodate from thirty to thirty-five persons while the trailer will hold forty to forty-five. There is nothing particularly new about motor truck construction or use for this purpose, but the trailer is in a little different class and comes under the head of the newer types of equipment. In this case the trailer has a chassis 14 feet long, it being the regular type of four-ton trailer, except two extra feet of frame length. It rolls on 40 by 8 pneumatic tires, which are mounted on Timken roller bearings made for this purpose. The trailer has a brake which can be operated by the driver of the motor truck without leaving his cab, it being connected by cable.

The body is 14 feet long and 10 feet wide. The seats run lengthwise, there being one on each of the outer sides and one double seat running through the center. These seats are portable and can be moved very quickly, and is done by the Beech-Nut Packing Company when an unusual amount of freight is to be moved.

The passengers have access to the trailer by using a stairway which is attached to either end of the trailer. This stairway is then pulled in and stored away during the trip. The upper half of the body is cut away as shown in the illustration, the curtains being used during the stormy period. The doors have the upper half fitted with wired glass, so that when the curtains are down, there is still sufficient light in the trailer, or the motor truck wiring can be carried to the trailer and the latter lighted with the usual electric light if desired.

Standard Appoints New Dealers

The following organizations have been appointed to handle Standard Motor Trucks.

The General Commission Company, of Toronto, Ontario, distributers for eastern Canada.

The Manhattan International Corporation, of New York City, will distribute Standard motor trucks in the sections of the North Atlantic and New England States not already covered by present distributers.

The P. S. Car Motor Company, Atkinson, North Carolina, will be the Standard dealers for the territory adjacent to Atkinson

The territory in the neighborhood of Sulligent, Alabama, will be handled by the Kennedy-Maddox Motor Company of that city.

The H. J. Koehlers Motors Corporation, which formerly had its headquarters at Fourth Avenue and Ogden Street, Newark, N. J., is now installed in its new plant at Bloomfield, N. J.

Replaces 20 Teams and Pays for Self in 70 Days

TRUCK OPENS EYES OF MAINE FARMER

F. O. Simeson, of Limestone, Aroostook County, Maine, has a 160-acre potato farm, situated 7½ miles from a railroad, yielding about 150 barrels of potatoes to the acre, or approximately 24,000 barrels.

On account of a road grade between Mr. Simeson's farm and the potato storage house close by the railroad, he could haul only 20 barrels with one team of horses and make one trip a day. It would have taken him 1,200 working days with one team—just a little more than three years—to haul his crop to market. In order to get it to the storage house in the 60 days available between "digging and snow," it would have taken 20 teams to do the job. If Mr. Simeson and every other farmer who hauled to this particular station had found it possible to secure 20 teams for the 60 days, it would have been impossible to handle that number at the unloading station. The haulage cost alone for this number of teams would have been considerably more than $6,000. Total costs would have been enormous.

Mr. Simeson's transportation problem was placed before the agricultural transportation engineer of the Packard Motor Car Company of Boston.

Mr. Simeson was furnished with facts and figures concerning the operating costs and given an actual demonstration of the efficiency of the motor truck.

Convinced that the analysis of his problem was correct, Mr. Simeson purchased the machine and immediately began hauling 45 barrels of potatoes to a load and making 6 trips a day. In addition to this he made frequent night hauls to get his potatoes in the storage house inside of 70 days.

At the old rate of 25 cents a barrel for 24,000 barrels, this truck more than paid for itself in the 70 days it had to do the job.

Every one of the 6,000 farmers in Aroostook County is a potato farmer and every one of the 80,000 people who live there is in some way or other dependent upon the potato crop for his livelihood. They are all potato specialists, and nothing is overlooked that can in any manner improve the quality or insure the certainty of the crop. They practice the most careful cultivation, make free use of fertilizers and utilize every machine that will reduce labor and transportation costs and increase efficiency in handling the crop.

Hauling the crop to market has always been a slow and tedious process. Twenty barrels make a full load and if a grower lives 10 miles from market one load a day is all he can haul. If he lives 5 miles he is limited to 2 loads a day with a single team, for 20 miles is a full day's work for heavy hauling. Under these conditions the growers who live at any considerable distance from a shipping point are at a distinct disadvantage. They can not take advantage of a bulge in the market nor can they haul a very large proportion of their crop to an early season market.

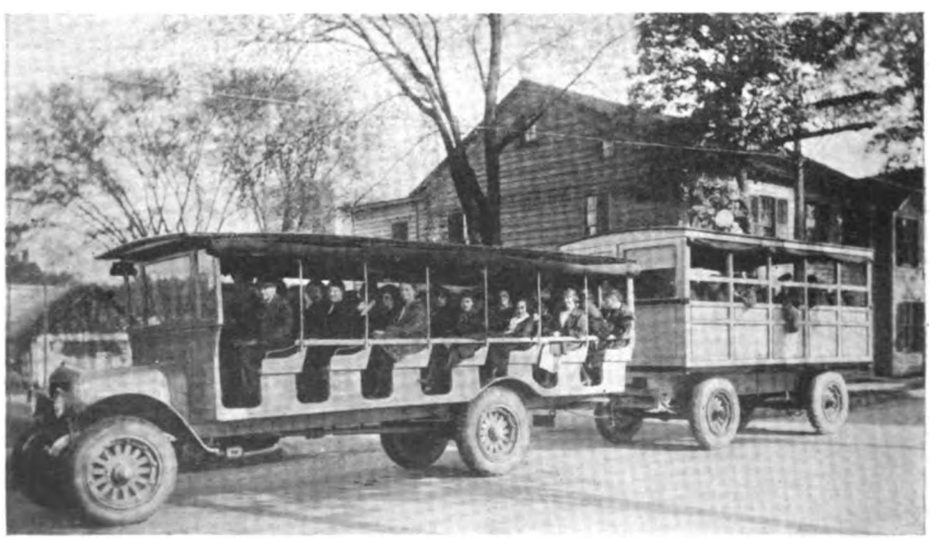
An appreciation of these disadvantages is causing a considerable number of the Aroostook growers to look into the possibilities of the motor truck.

One Farmer Discards Horses for Tractors

Grover C. Logan, a farmer of near Danvers, Illinois, planted forty-two acres of corn and six acres of oats, after plowing and disking the tract, the entire work being performed with two tractors in twelve days. The plowing and disking was handled by a large tractor and the planting by a smaller machine. A weeder was also handled by the latter machine. Not a horse has been used on the farm this year. But twelve working days were permitted in May, due to the frequent rains, but thanks to the tractors, there was no delay of consequence in the farm work.

Samuels Heads F. W. D. Sales

E. A. Samuels has been appointed assistant sales manager of the Four Wheel Drive Auto Company. Mr. Samuels, who is well known in the automobile world, received his early experience with the Chicago office of the Locomobile Company of America, which had charge of a number of the company branches and territory supervision over twenty-four states. Later, he acted as special Chicago representative for A. J. Banta, president of the Maxwell Sales Company.



This outfit hauls 80 passengers 8 miles.

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Claims Vulcan Was Made to Fit Conditions of West's Hauling

R. J. Church, general manager of the Vulcan Manufacturing Company, Seattle, Washington, saw the necessity of designing and building a motor truck in the West for the West, one that was built rugged enough to stand extreme overloads, many hills and bad roads. He picked E. B. Staley, for chief engineer and designer of this motor truck, on account of Mr. Staley's long and varied experience as an automotive engineer, not forgetting the fact that he had had several years experience in the Northwestern territory, and knew conditions as they exist, and the requirements of the most discriminating commercial motor car buyer.

The standard equipment of Vulcan motor trucks is wooden bumper with steel re-inforcing, radiator guard, a full sized all-sheet steel cab, with hardwood floors, and a slanting windshield; electric head and tail lights, of which the tail light is placed inside the frame, and still in such a position that the white light shines directly on the number pad. The dash board equipment is ignition and lighting switch, an ammeter, an oil pressure gauge and an oiling instruction plate.

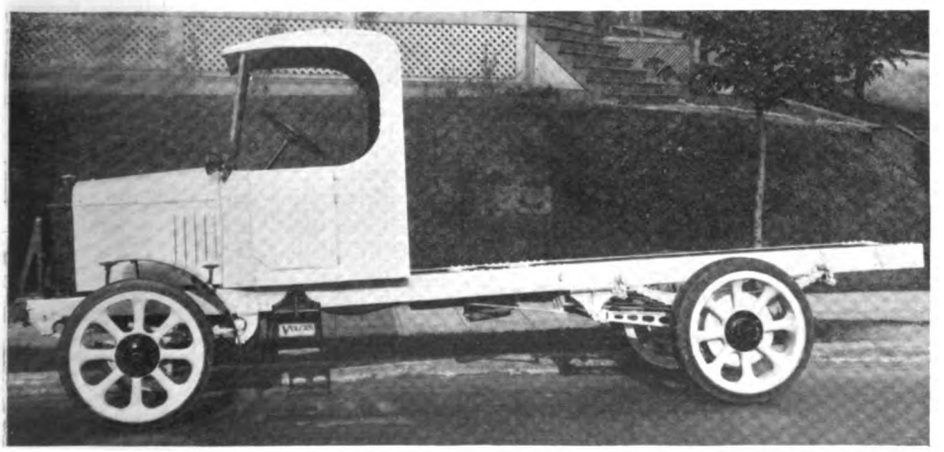
List of component parts:

Wisconsin U. A. U. 4¾ by 6 engine, governed at 1,250 r.p.m.; Eisemann magneto; Pierce governor; Zenith Model L 5 carbureter; Hy Duty 20" fan; long spiral finn helical tube radiator with 600 square inches of frontal surface; Brown-Lipe Model 50 clutch; Brown-Lipe Model 50 4-speed transmission; Spicer propeller shafts; Sheldon front and rear axles; Ross steering gear; Smith metal wheels, solid tires; pneumatic tires, optional equipment.

Cement Prices Show Big Increase in 1920

The average price of Portland cement at the mill in 1919 was $1.67 in the districts of Iowa, Missouri and Minnesota—a raise of 2 per centum over the year before. In the Nebraska, Kansas, Oklahoma and Texas district, the average price in 1919 was $1.70—a raise of 1.5 per centum over the year before. The average for the whole country in 1919 was $1.69 per barrel.

In 1916 San Francisco, Cal., had the following number of horse-drawn vehicles of public conveyances: 18 hacks, 20 coaches and 5 one-horse cabs. At the present time there are no horse-drawn passenger vehicles operating in that city.



Vulcan—ruggedly built for Western hauls.

Road-making Is Advanced by Use of Motor Truck

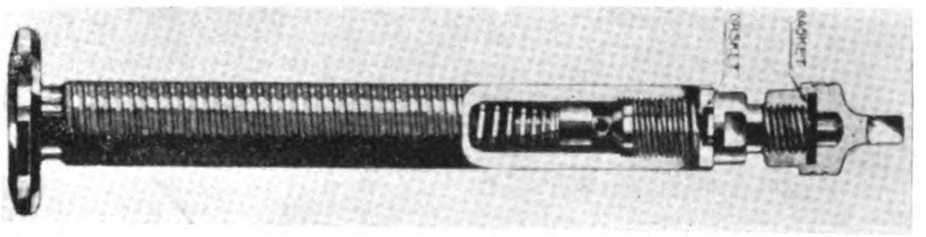
MACHINE DOES WORK OF SIX TEAM

Highway Commissioners of Macon county, Illinois, have found a motor truck profitable in handling road making material. They experimented with a tractor and found it unwieldy and too slow. A Nash quad motor truck was then substituted and has been found to be just what is wanted. The motor truck is stored nights in Decatur, the county seat, and each morning hauls cinders, crushed stone, timbers or other road and bridge material, together with the workmen in the employ of the commissioners. The great advantage of the motor truck is the saving in time in getting over the road with the men and supplies. The capacity of the machine is 2 tons and the commissioners have two dump wagons for trailers, used when there is a large quantity of material to be transported.

It is a frequent occurrence to move fifteen tons with the motor truck and two trailers, while the speed averages fifteen miles an hour. It would be impossible for a team to move faster than a walk pulling two tons, while the motor truck, leaving Decatur at 7 a. m., is able to land the laborers and material at the place where the road or bridge is to be given attention within a short time after leaving the garage, thus enabling the township to secure practically a full day's work from the employes, an impossibility under the old system when a team required thirty minutes to an hour to reach a point in the country where a job was to be performed.

The motor truck has displaced six teams and as many men and the commissioners are making a better showing in keeping up the roads than ever before. The tax payers are commenting favorably upon the promptitude with which complaints of mud holes, defective bridges, or other highway troubles, are being given attention. The motor truck can move to the scene with a supply of cinders or timbers in a comparatively short time and the operating expenses of the commissioners are less than at any previous similar period in the history of the township.

So far, the highway commissioners are limiting their operations to improving the dirt roads, grading, and distributing cinders, gravel and crushed stone. Later, when the construction of concrete and brick roads is authorized, it is expected that the use of motor trucks will be more general. Since the Decatur commissioners invested in the Nash quad, they have had many inquiries from other highway commissioners of Central Illinois who are also inclined to dispose of their horses and substitute a tractor or motor truck. The Decatur commissioners are advising a motor truck as the most satisfactory and economical vehicle for road making.



Sectional view of Mead valve.

Mead Valve Saves Time

The construction of the Mead air valve for tires, made in Toronto, Canada, is amazingly simple for the service it renders. It consists of five separate parts—mainly, the shank, heavy brass spiral spring, plunger with rubber seat, plunger seat and dust cap. All the parts are made of heavy brass nickled over to prevent corrosion.

The plunger is held in position by the bevelled shell or plunger seat which screws into the shank. The heavy brass spring precludes any possibility of any air escaping through the valve. Absolutely no air can get out until the plunger is pushed down far enough to bring the port holes out of the conically bored shell, whence it escapes through the two air port vents. The moment that the pressure is released the spring immediately pushes the plunger back into the conical boring and it remains hermetically sealed until deflation is again required. Because of the generous size of the port vents, inflation is quick and easy, as they transmit the entire contents of the pump into the tube immediately. Deflation, also, takes but a few seconds. This valve has been tested in every manner that a tire valve can be tested, and in every case it has proved itself very efficient. On machines under constant usage for over six months, the valves have retained the air so well that it has not been found necessary to reinflate the tires.

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The Farmer as a Buyer of Motor Trucks

By F. W. FENN
Secretary, Motor Truck Committee, N. A. C. C.

THERE are two great markets which the motor truck manufacturer and dealer have, these being the farmer and the prospective operator of motor transport lines designed to serve him. These markets have barely been scratched—in fact, we might say that they have not been exploited at all.

The fact that the farmer has already bought a product on which he had not previously been sold, a product which has served and stood up under the most severe kinds of work with little or no service behind it, speaks well for the product turned out by the motor truck factories of America.

Despite the fact that the farmer to-day is a large user of motor trucks, he has not commenced to buy, while the urban market is fast being sold to capacity and sooner or later is going to be oversold. As an illustration, taking our two largest cities, New York and Chicago, motor trucks have been largely sold in industries formerly using horses, so wherever motor trucks have been sold they have displaced the horse. It is reported that the decline of horses in New York has been 41 per centum in a nine-year period (1910-1919), while in Chicago the decline has been 18 per centum in one year (1917-1918). Eventually, the motor truck will eliminate the horse from the streets of our cities, as it has in passenger traffic, and the urban market is going to be entirely filled, except for light, normal expansion and replacement as motor trucks wear out. When this occurs, new sales will fall and the urban market will not consume our constantly increasing production.

TAKING the motor truck and comparing it with the passenger car, you have a great many companies to-day—perhaps most of them—that are manufacturing cheaper cars. You have there a big field. Almost any man who has any kind of an income is a potential buyer of a cheap car; but you must sell a motor truck where it is needed in business.

Motor trucks can not be sold as passenger cars are sold, and they do not command the market which the passenger car enjoys. Therefore, in selling motor trucks, transportation should be the keynote.

Take the city of New York and the potential market for motor trucks connected with it. This city is surrounded by one of the most fertile and productive garden spots in the world. I know of a case where there was a shortage of potatoes and cauliflower in New York, while at Riverhead, 90 miles out on Long Island, great quantities of these commodities were waiting shipment. They were not coming in to New York because of the fact that transportation was lacking. The Long Island Railroad was there, it is true, but nevertheless, for reasons unknown, these products were not being shipped over its rails. Finally a group of progressive farmers conceived the idea of shipping by motor truck, and one day a fleet of motor trucks loaded with cauliflower left Riverhead, bound for New York City, 90 miles away. This shipment served two purposes; it brought into New York City fresh vegetables, which were badly needed, and it gave to the farmers a profit for their labor.

Agriculture is the most important activity that human endeavor has, but it receives the least of our attention, so far as transportation goes.

THE total number of farms in the United States is 6,361,502, of an average size of 140 acres. It has been stated that any farm of 80 or more acres can profitably use a motor truck. Adding a factor of safety of 75 per centum to this estimate, it is concluded that a farm of 140 acres can economically support a motor truck. It is, therefore, reasonable to assume that if every 140 acres of farm land will support a motor truck, the possible number of motor trucks that may be sold is 6,361,502. To be conservative, let us suppose that only one-third of this number would be motor truck prospects; we thus find a potential market for 2,120,500 motor trucks. Comparing this number with the number already in use, we find that only 3.2 per centum of the potential market has been sold on the actual use of the motor truck.

The fact that motor truck hauls in 1918, from farms to shipping points, averaged 11.3 miles, while horse and wagon hauls averaged 9 miles and that the motor truck made 3.4 round trips over the longer route, while horses made 1.2 round trips over the shorter, as shown in figures compiled by the U. S. Department of Agriculture is evidence enough that the motor truck is needed on the farm.

The Department of Agriculture also says that the estimated cost of hauling in wagons from farms to shipping points in 1918 averaged about 30 cents per ton mile for wheat, 33 cents for corn and 48 cents for cotton.

The averages for the motor truck fall far below these figures and are as follows:

Per ton mile, 15 cents for wheat and corn and 18 cents for cotton.

In 1918 wagon costs were higher than they were in 1906, while motor truck costs, due to higher efficiency, were lower in 1918 than wagon costs in 1906, when the factors, such as labor, were below the standards of today.

There are other reasons why the farmer is going to buy motor transportation. Demand for swifter transportation increases as production of agricultural products increases—they go hand in hand. Expanded production comes through the ability of the farmer to produce more with the aid of machinery and his ability to market it quickly. The difference in hauling costs and time saved given in the figures compiled by the Department of Agriculture tell the story.

Another indication is the increasing value of farm products. This, according to the Department of Agriculture, in 1897 for the United States was nearly $4,000,000,000, which has increased year after year until it reached in 1918 over $21,000,000,000.

The average production of corn for the five years, 1913-1917, was 2,749,349,000 bushels, that estimated for 1918 was over 2½ billion bushels, while the October 1, 1919, figure gave an estimated production of nearly 3,000,000,000 bushels.

In the production of wheat, the 1913-17 five-year average was over 790,000,000 bushels, while 1918-19 production was over 900,000,000 bushels.

Milk production for 1918 was about 11,044,000,000 gallons, which is an increase over 1917 of over one billion gallons.

The Department of Agriculture says manufacturers estimate that 314,936 tractors will be made in 1919. In 1918 production was 132,697, so it is evident that we have not tried to sell the farmer.

To show you the extent to which farmers are using motor trucks, I will quote you two or three reports we have recently received from different sections of the country:

AT Louisville, Kentucky, 80 to 100 motor trucks loaded with grain are being received by Ballard & Ballard Company daily. It is stated that the motor truck has broken all records for the haulage of wheat at this point, and that it has flooded the market to such an extent that the elevators became clogged. Motor trucks are bringing this wheat from distances as far as 70 to 80 miles away. These motor trucks come into the city from 7 in the morning until 7 at night. The motor trucks that are being used for this class of work are of 5- and 6-ton capacity.

Think of 6,800 head of hogs hauled into the Indianapolis stockyards in one day, by 500 motor trucks, which traveled 2,500 miles, valued at $200,000! This is not the only point receiving livestock direct from the farm by motor truck. St. Joseph, Missouri, is receiving 2,500 per day, while Omaha is receiving over 187,000 in one year; and these records are increasing at a great rate year by year. This will help

(Continued on page 76.)

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The Railroads of the United States are no stronger than the Motor Trucks which handle the freight. The Railroads and the Motor Trucks are a necessity of life.

There is one thing sure—a motor truck is never laid up for a week or a day on account of wheel trouble when carried on Smith Wheels, which are guaranteed without any limit to do their part for all time under every conceivable condition.

Neither the railroads nor the service to the public are ever held up in the least on account of Smith Wheels.

Smith Wheels are an assurance against wheel depreciation and operating loss, and congestion of freight, which is now immeasurably costly.

Motor trucks equipped with Smith Wheels can be loaded at the end of a business day and allowed to stand overnight for an early morning start for the freight house without any injury to the wheels from long standing under full load.

Show this to your banker to help impress him with the idea of how necessary today motor trucks are to carry on business life.

SMITH WHEEL
SYRACUSE, N.Y. U.S.A.

Please mention "Power Wagon" when writing to advertisers.

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The Farmer as a Buyer

(Continued from page 74.)

to show you that the market is there and all that is necessary for you to do is to help make the farmer understand it.

To show you how we know the farmer is interested in buying motor trucks, I will tell you of two surveys we made in New York State. Recently 1,500 questionnaires were sent to farmers on Long Island, in which it was asked if they were interested in motor trucks, or in the development of rural transport lines to serve as carriers of their products to the cities. Eighty per centum of the returns showed that great interest existed in this locality. Questionnaires sent to farmers by the New York State Reconstruction Commission brought in some very favorable replies, showing a healthy demand existed for motor truck service in most of the counties. Recently, at the Rural Express Exhibit, held under the auspices of the New York State Department of Farms and Markets in the State Institutes Building, at the New York State Fair at Syracuse, 6,000 farmers took the rural express literature from the booth, while 1,100 voluntarily signed cards as being interested in motor trucks. If such a need for the motor truck exists among the farmers in this state, where the farms are small, think of the tremendous market which must exist in most of our Western states, where the farms are large and production big.

A Rural Motor Express is a motor express line designed to serve the farmer. One of the big advantages is that it relieves the farmer of transportation work by carrying his product at a minimum cost and does not take him or his help off the farm.

In the formation of a Rural Motor Express, it is first desirable to have the rural section around any particular center surveyed, to find if enough business exists in the territory to warrant the purchase and operation of a motor truck. Motor truck dealers might carry on this survey, or some prospect whom the motor truck dealer might interest, could do it.

The National Automobile Chamber of Commerce has issued a booklet entitled "Organization of a Rural Motor Express Line" which gives all the essential information as to how to proceed in this work. Over 200,000 copies have been mailed to interested parties during the past year, and we shall be glad to send it to any one upon request.

The following facts will be of interest to show how a market has been developed:

A little over a year ago, Senator Cummings of Idaho wrote us, stating that 500,000 bushels of wheat raised in the Arbon Valley, 20 miles away from any railway, would go to waste and would be entirely lost, unless a rural motor express route was started at once. Enterprising dealers in that locality got in touch with the situation and lines were started. One year after the receipt of Senator Cummings' letter we received a letter from a man in Pocatello, part of which is as follows:

"I have under organization a company capitalized at $50,000, the purpose of which is to run a rural motor express line, hauling express, freight, passenger, and probably mail for an inland territory, starting at Mackey, Idaho, the terminus of the Salmon River branch of the Oregon Short Line railroad, and supplying the inland territory for a distance of 150 miles. There are several small towns in this inland country that we will also supply."

This line is over the exact highway and serves the exact district specified in Senator Cummings' letter—and will probably start with from 13 to 15 motor trucks.

It should be remembered that the development has arrived at a point where it should be very easy for a dealer to interest a prospect, organize a line and sell a motor truck. It is not a difficult proposition to find a buyer who will operate such a line, for every day we are receiving letters from people, who, of their own accord, are buying motor trucks and starting such lines. Only a few days ago we received a letter from a man who is starting four lines in Florida. He has proceeded along the lines which are given in the National Automobile Chamber of Commerce pamphlet I mentioned, and has found, before he had invested any money, that the business was there to make his lines pay.

A booklet which we are preparing, will show how these lines are saving such crops as huckleberries, peaches, grapes, wheat, vegetables, cotton and tobacco, which would have rotted on the farm, had not these lines been in operation to carry them to market. This booklet will give rates in force in various states, by various lines; rates as presented by the Public Service Commission of Nebraska, and shipping forms, terms and conditions on which the goods are received. It will give a vast amount of information on the profitability of motor express lines, where these operations are, and what they have meant to these communities.

Railways, electric lines and waterways should not stand in the way of this development, for in a great many cases they are acting as valuable feeders. For instance rural express lines from Pittsfield, Massachusetts, and Utica and Syracuse, New York, are acting as feeders to the Hudson River night boats, while others are acting as feeders to the large electric railway system in Chicago and Milwaukee.

The possible economics that can be effected in hauling are staggeringly large. Considering only primary hauling, from farm to shipping point, an annual saving of $1,022,000 could be effected if all roads were rock surfaced.

These lines are making the entire country productive, for they are furnishing transportation and making it possible to develop vast areas of land, thereby increasing our food supply.

Colleges and universities all over the country have become interested and either have, or are going to establish courses which will put motor truck operation over the highways on a sound business basis.

Two Motor Truck Tours in Michigan Are Success

BOOST TO ROADS AND TRANSPORTATION

Michigan supported National Ship by Truck-Good Roads Week with two separate motor truck tours, one from Detroit, the automobile city, and one from Saginaw.

The Detroit tour was run under the auspices of the Detroit motor truck dealers and the Firestone Ship-by-truck Bureau, and according to P. M. Gunsaulus, director of the bureau, was a splendid success. The army, navy and marine corps were represented by interesting exhibits and recruiting trucks with detachments of uniformed men. The Great Lakes Training Station Naval Band furnished lively music and nationally known speakers addressed large mass meetings on motor truck transportation and good roads.

F. W. Fenn, secretary motor truck division, National Automobile Chamber of Commerce, accompanied the Detroit tour and spoke on motor truck transportation. In Ann Arbor, one of the night controls, an address was also given by Professor Arthur H. Blanchard, head of Highway Engineering and Motor Transport at the University of Michigan.

Horatio Earle, or "Good Roads Earle," as he is perhaps better known throughout Michigan, was the principal speaker for the Saginaw tour, which was directed by Chester Howell, of the Saginaw Board of Commerce, and R. J. Zoet, of Firestone.

As a splendid climax to Ship by Truck-Good Roads week in Michigan, a banquet was given by the Detroit Automobile Dealers' Association to motor truck dealers of Detroit and the sales managers of Detroit motor truck factories at which H. S. Firestone, president of the Firestone Tire & Rubber Company was guest of honor. He spoke briefly on the relation of good roads to motor truck transportation.

"We must build from the foundation for highway transportation," Mr. Firestone said, "and that foundation is good roads. The federal and state governments have appropriated approximately $800,000,000 for good roads. It is probable that one-half of this will be wasted through lack of knowledge of the type of roads needed and of proper construction. The people of the country must be educated along these lines."

Notwithstanding rainy weather, good crowds and great enthusiasm greeted the tourists at every stop. The tours could not have been held at a more opportune time, coming as they did when rail traffic was tied up, transportation was uppermost in everyone's mind and the value of motor truck transportation and adequate roads was pointed out in a very forcible manner by the speakers with the tour.

All along the route of the tours great enthusiasm was found for establishing new ship-by-truck routes and plans are already under way for their establishment.

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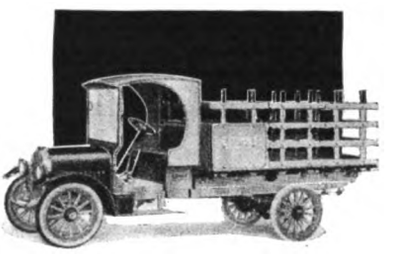
COMET

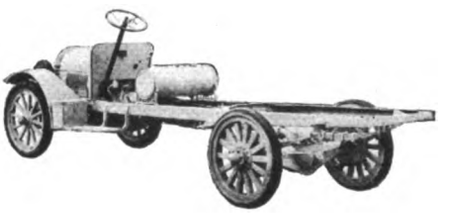
ECONOMICAL POWER

Underloading a heavy truck is poor economy--the same as overloading a light one. The secret of hauling economy is the medium-sized truck.

The COMET 1½-Ton Truck is perfectly sized for general utility. Its 38.6 h. p. will take care of the maximum load. Yet there is such skillful balance that no power is wasted on light hauls.

In other words, the COMET strikes the average. It serves you always with consistent efficiency.





A SPECIAL FOLDER describes the mechanical superiorities of the COMET. It will pay you to study them. Write or wire for information as to immediate delivery on COMET Trucks.

The COMET AUTOMOBILE COMPANY

823-69 GARFIELD AVE., DECATUR, ILLINOIS.

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Highways, Tractors and Trailers

By H. ELTINGE BREED
Consulting Highway Engineer, New York City

TRACTOR and trailer traffic is a sure thing. Highway design is a glittering uncertainty. By tractor and trailer traffic being a sure thing, I mean that it is here to stay. There are registered in the country today 35,000 trailers. Their percentage of increase in the last two years was more than 100 per cent. At this rate of increase, we can plan for 500,000 tractors and trailers by the year 1930. The only uncertain factor is whether the rate of increase will itself increase, and how much. I personally believe we should plan for at least double this number of tractors and trailers.

Events of the last two years have caused many doubts as to whether the great occasion always does produce the great man, but in this mechanical age the advent of the tractor and trailer is one indication that the great industrial need always produces the means to fulfill it.

The crux of the economic situation, as I see it in this country to-day, is, even more than production, *distribution*—distribution of the products of the soil, of labor, of machines; and fairer distribution of the wealth that accrues from these products. The motor truck and the tractor and trailer have been developed to meet the need of distribution.

The railroads can not meet this need. Industries in the Middle West are being forced daily to shut down because of the shortage of freight cars for the transportation of material. Farmers the country over are frantic with anxiety about the movement of their crops. Congress, and the Interstate Commerce Commission, and the Car Service Bureau and how many others squabble and muddle along with no prospect of adequate solution? Whatever relief we get this year and next will be from motor transportation.

Much as we need distribution, we need even more *economy in distribution*. It is appalling to realize that we, as consumers, pay from three to more than ten times the actual cost of the finished article, be it manufactured or natural product. It is disquieting to reflect that we are the only rich nation in a bankrupt world. It is still more disquieting to hear the hollow reverberations of much of our wealth. Whatever effects a saving in cost to the consumer is a national boon. Motor power for short-haul freight does effect such a saving. That, I believe, is the great reason for its rapid growth. Mr. Banham of the Otis Elevator Company says:

"I find that if we combine all the costs, such as additional crating, labor, etc., to make a less-than-carload shipment, the rate averages a dollar a hundred from Yonkers to Newark. If you take the same movement by motor trucks or tractor and trailer, with decreased boxing, weight and labor, the rate averages twenty cents for twelve miles—a difference of 80 cents per hundred pounds in favor of the motor truck. The saving in time, in space for storage, in materials, are all in favor of transportation by motor."

There is also the very important saving in gasolene which results from the use of the tractor and trailer over the ordinary motor truck. Trailers make it possible for one tractor and one driver to do the work of three. With the motor truck they have met the industrial need. To-day, in the tie-up in New York harbor, they are coming to the rescue, and moving the foodstuffs. More and more they are becoming to the great cities the strongest assurance of a sufficient food supply. Those of you, in New York City, who had babies or invalids to care for during the milk crisis in January, 1919, will remember with gratitude the Walker-Gordon milk trucks.

But in the uncertainty of highway design, motor transportation suffers a serious check. I say "uncertainty" because this spring improved roads have gone to pieces as they never have before. The section of the Lincoln Highway between Trenton and Philadelphia has completely gone to pieces. Some people say the damage is due to the hard winter. That I disbelieve. Weather is a natural process that should not hurt a healthy, protected organism, either human or highway. The roads are organically wrong, because they are not designed for the loads they must bear. Unless they can sustain the necessary traffic they do not fulfill their function. They hinder, instead of help, distribution. The savings effected by motor transportation more than offsets the cost of the roads that are essential to this transportation. Their economic value to the country can not be expressed wholly in terms of the dollar.

Adequate design of highways for tractor and trailer traffic means an immediate provision for three lines of traffic near all large cities and on all trunk routes, with possibility of an added ten feet longitudinally for a fourth line. At least nine feet should be allowed for each line of traffic. The additional width is necessary because tractors and trailers move at a speed of from six to twleve miles an hour, and other cars, going from twelve to forty miles, must have room to pass.

Turns must be widened because of the greater length of the tractor and trailer, and curves must be superelevated so that they keep in their own line of traffic.

With the increasing cost of motor fuel, special attention must be given to reducing grades. The consumption of gasolene increases directly with an increase in grade. On a fairly level road you can haul a heavier load with less fuel. This saving on main roads heavily traveled often compensates in a year or two for whatever additional cost is involved in reducing grades.

Because of the distribution of load over six or eight wheels, and because of their slower movement, tractors and trailers are less hard in impact upon pavement than heavily loaded motor trucks. They would not require any greater strength of foundation or better type of surfacing than we would provide for regular heavy traffic—but all heavy traffic requires an adequate foundation and a durable type of pavement. A semi-durable pavement for heavy traffic is sheer waste.

I become more and more convinced, however, that the final success of road building depends upon the intelligence of the public. The public must not only demand good roads, but that part of the public represented by the Highway Traffic Association must know enough about what constitutes good roads to act as a spur to the sometimes sluggish consciences of engineers and contractors. Public knowledge prevents private graft.

Good roads require an alert, intelligent public, engineers with vision and competent contractors. These factors, and the training in highway work that some universities are now giving, and the urgency of the need itself, will gradually produce highways that will be adequate to the demands of tractor and trailer traffic.

Italy Leads World In Number of Its Motor Truck Bus Lines

Owing to the fact that Italy to a considerable extent is a mountainous country, railway lines can only be built at much cost and labor. At the present date the length of normal railway lines in Italy is 8,700 miles.

Joseph Emerson Haven, American consul at Turin, says:

"About ten years ago public automobile services as 'feeders' to the railways were inaugurated at certain points and these proved so successful that to-day it is believed Italy ranks first in the use of this auxiliary traffic medium. The total length of road over which motor services are run on fixed time tables is 18,700 miles, there being 400 regular lines."

The transportation value of the motor bus is being felt in all parts of the world. It has a very great influence in the growth of new business wherever it touches industrial life. It quickens the growth of communities and creates wealth.

Motor bus transportation is making great strides in the United States. Business has been greatly stimulated through it, owing to its ability to economically tap rural sections. The case of Poughkeepsie, New York, is cited, whose merchants through its interurban motor bus service, are enjoying the patronage of over 2,000 addi-

(Continued on page 80)

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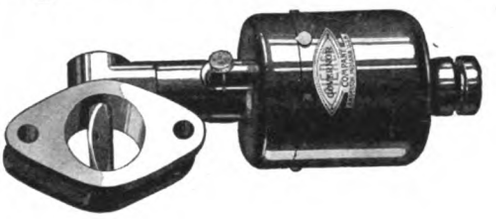
PIERCE

GOVERNORS

Keep Your Trucks on the Job

"ONE MOTOR TRUCK ON THE JOB IS WORTH TWO TRUCKS IN THE REPAIR SHOP"



FROM both an economical and from a service standpoint, ungoverned truck engines are a liability instead of an asset.

Trucks equipped with Pierce Governors cannot be driven at reckless speeds. They are therefore longer lived, make fewer trips to the repair shop, and can be operated more economically.

That is why "103" Truck Manufacturers supply Pierce Governors as regular equipment.

The Pierce Governor Company
WORLD'S LARGEST GOVERNOR BUILDERS
Anderson-Indiana
U·S·A·

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Highways, Tractors, Etc.

(Continued from page 78)

tional people weekly, who come into that city from rural and nearby points in these motor buses.

Out in Illinois a bus line, with Rockford as a center, in two years carried 2,000,000 people without an accident. These buses, of which the operating company has a large number, cover from 150 to 200 miles a day without refilling with water and from 7,000 to 20,000 miles without a single change of tire.

The installation of a motor 'bus line does not call for the capital outlay which is found necessary with an electric trolley line. It is silent in its operation, and therefore its operation is permitted on the best business and residential thoroughfares, where the electric railway system is barred.

With the motor 'bus and the motor truck we are, for the first time in history, able to give passenger and freight transportation to all the world. In the United States, as in Italy, we find a large part of our people without any form of transportation, while large areas have it only in a spasmodic form. If public necessity demanded the adoption of the motor 'bus on the Italian peninsular, think of the field which awaits 'bus operation when public opinion awakens to its value and demands it.

Spradling Heads Diamond T Export

The Diamond T Motor Car Company has organized an export sales department, with R. D. Spradling as manager. Mr. Spradling comes to Diamond T from the Hydrolic Pressed Steel Company.

Lindsey with Kelly

T. S. Lindsey, formerly New York branch manager and more recently eastern district manager of the Kelly-Springfield Tire Company's branches, has been made a special representative of that company's general sales department. He is well known in the trade, having been operating manager in the New York branch of the Diamond Rubber Company before joining the Kelly-Springfield forces in 1913.

Canada Ranks Second as Car Maker

Canada is now the second nation in the world in the manufacture of automobiles, number of cars owned and the per capita distribution. The United States takes first rank. Figures compiled by the Motor Bus and Motorize the Farm Bureaus of the Goodyear Tire & Rubber Company show that one person in every fifteen in the United States owns an automobile, while one in every twenty-three is the percentage in Canada. In Great Britain but one person in every 268 owns a car. The percentage in France is one to 102, one to 684 in Germany, one to 1,000 in Italy, one to 2,700 in Austria and one to 5,300 in Russia.

Hamilton Motors Company Expands.

The Hamilton Motors Company, of Grand Haven, Michigan, has increased its capital stock from $500,000 to $1,500,000. The additional capital is to be used for the purpose of increasing production to meet the demand, domestic and foreign, for the Apex line of commercial vehicles. In addition to the greatly increased factory floor space now under way, it is the intention to double present manufacturing facilities.

WANTED

HIGH-GRADE MOTOR TRUCK ROAD SALESMAN

to solicit and assist dealers. State full experience. Correspondence treated confidentially.

VELIE MOTORS CORPORATION

MOLINE, ILLINOIS

WANTED TO PURCHASE WATER TUBE BOILERS

for immediate delivery, B. & W. Altman-Taylor type.

1-400 to 450 H. P.

2-250 to 300 H. P.

The 250 to 300 H. P. must be made according to A. S. M. E. code for installation in Minnesota. All to be guaranteed for 160 lbs. working pressure. Give full description, including age, condition, where can be inspected and price F. O. B. cars. Address—Power Wagon, Box 28.

FOR SALE — By the Kentucky Lumber Company, Burnside, Ky. 2—Wickes Patent Vertical Water Tube Boilers, 250 H. P. each, 150 lbs. pressure; arch top, Dutch oven fronts and all necessary valves and fittings.

THIS tag is the sign of the "Tenth Year Federal." It is attached to every Federal truck purchased this year and is significant of the experience and responsibility of a company that, in the past ten years, has produced more than 50,000,000 dollars worth of successful motor trucks.

FEDERAL MOTOR TRUCK CO.
DETROIT, MICHIGAN

Profitable Side Line for Salesmen

Salesmen who call upon dealers, fleet owners, transportation managers, factory engineers, garages, parts and accessory makers—all who are actively interested in the sale, application, production, equipment or repair of motor trucks—can make from $5.00 to $10.00 a day by exhibiting and explaining the use of a well advertised article which sells almost at sight.

A ten-minute talk will effect a sale.

Commissions only, payable immediately or upon completion of transaction. Sample will be furnished free.

Addresss W. P.
Care THE POWER WAGON
544 Lake Shore Drive Chicago, Illinois

All replies will be treated in strict confidence. Applicants must state their present trade connection.

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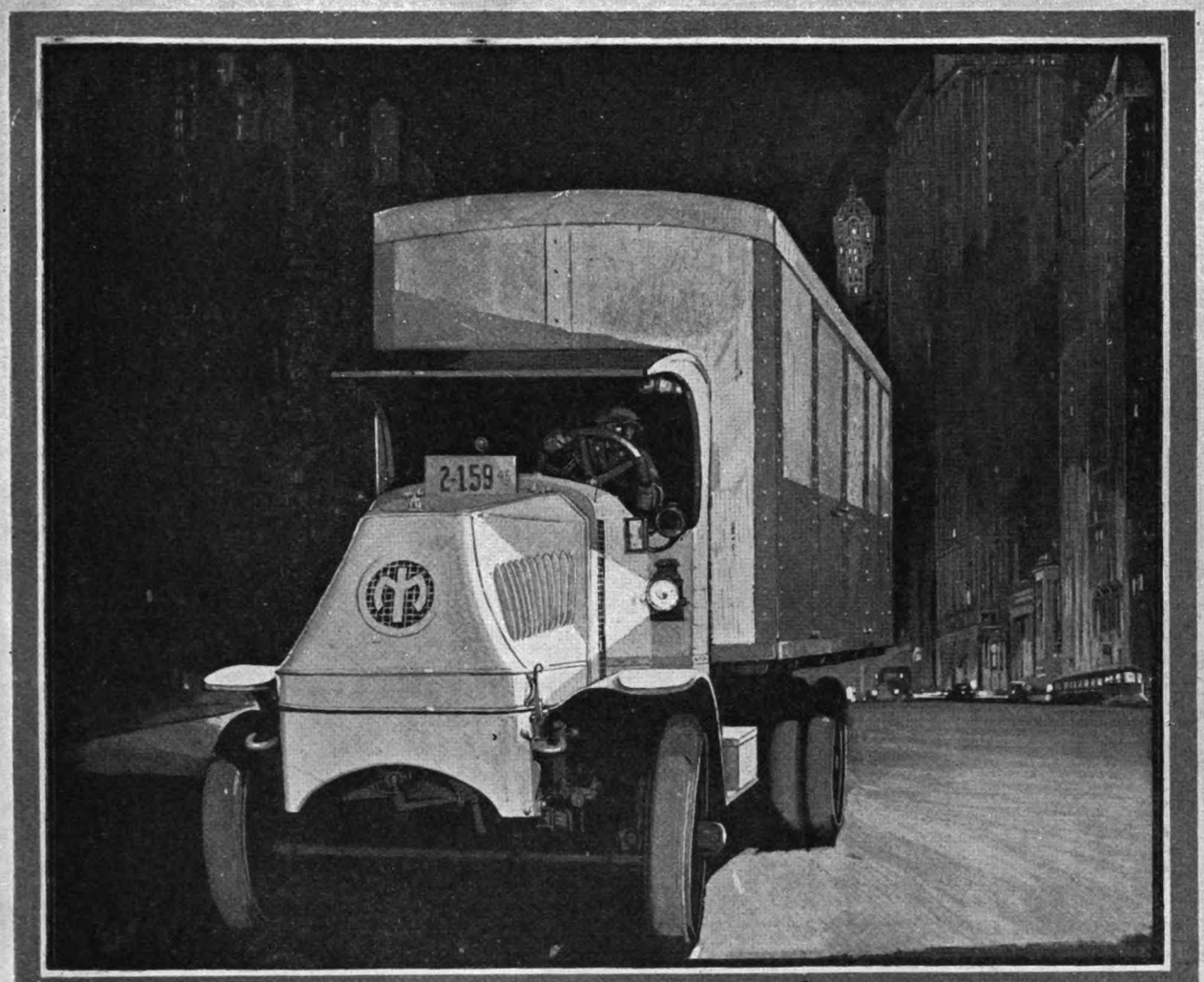

Working day and night

"After running 218 miles per day (24 hours), 7 days a week for 31 consecutive weeks, this 5½-ton Mack is now making daily round trips from New York to Philadelphia—piling up an almost unbelievable mileage record."—*From one letter of hundreds we should like you to read.*

AXLES of drop-forged chrome nickel steel, springs of heavy silico-manganese steel, and a flexible, hot riveted, pressed steel frame—these Mack details make capacity deliveries over long routes both practicable and profitable. Distinctive Mack engineering features, combined with 18 basic Mack patents, have developed the motor truck the world is talking about.

Capacities, 1½ to 7½ tons. Tractors to 15 tons
Full information upon request

Mack TRUCKS

INTERNATIONAL MOTOR COMPANY OF NEW YORK

"PERFORMANCE COUNTS"

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KISSEL Adaptability

The result of designing and constructing each sized model to fit definite hauling requirements, plus Kissel engineering and constructing practices that enable owners to standardize on the proper capacity model as well as on one make.

Creates Standardized Transportation–

The experience of prominent Kissel truck owners has proven that a motor truck to be operated economically and efficiently must, first, fit the purpose for which it is to be used, and second, be made in different sized models to permit standardizing on units of that make.

This adaptability is so highly developed in Kissel Trucks that owners, in standardizing on Kissels, find that they meet their transportation demands as if built to their own specifications.

Five different sizes. Catalogs at nearest Kissel dealer, or write—

Kissel Motor Car Co., Hartford, Wisconsin, U. S. A.

Originators of the ALL-YEAR Truck Cab.

Photo above shows Mr. Turner's present fleet of eighteen Kissel Trucks. *"When we need additional trucks, they will be Kissels,"* says Mr. Turner. Photo below shows one of Mr. Turner's first Kissel Trucks.

In the early part of 1918, the Turner Co., Denver, purchased ten Kissel Trucks. *"As good a truck as on the market—particularly suitable to our needs—economical operation—increased service to customers—are a few reasons why we standardize on Kissels,"* says President Turner.

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Added Refinements That Mean More Years of Quiet Service

IN the manufacture of Brown-Lipe Products, many bearing surfaces that formerly were considered perfectly satisfactory when carefully machined are now ground to the closest possible limits.

Where it is especially difficult to provide means for taking up wear, as in the differential "spider" illustrated, unit pressures are held low by making bearing areas very large, and tolerances are reduced to nearly zero.

Many such refinements of manufacture add useful years of noiseless running to the life of Brown-Lipe-Chapin differentials and Brown-Lipe Gear transmissions.

BROWN-LIPE GEAR
TRANSMISSIONS

BROWN-LIPE-CHAPIN CO.
DIFFERENTIALS

BROWN-LIPE GEAR CO.
TRANSMISSIONS

BOTH AT SYRACUSE, N. Y.

No. 14 of 40 Reasons for Superiority

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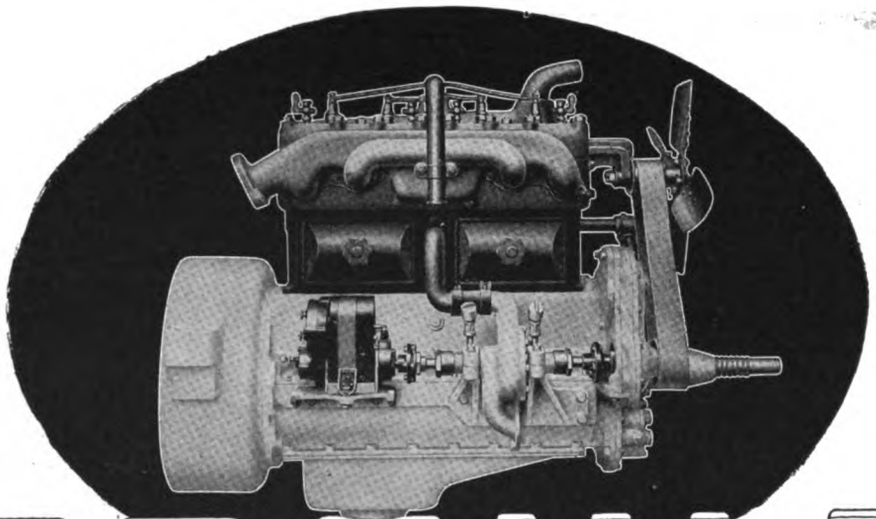
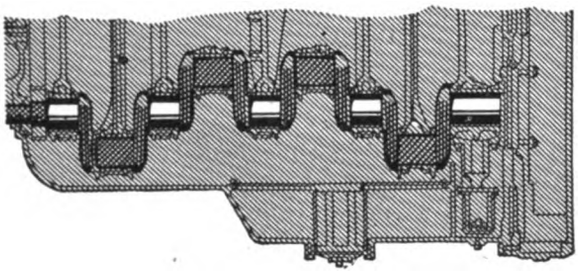


HERCULES



Maximum Strength

Each individual part of Hercules Engines is designed and built with proper distribution of correct materials for maximum strength.

And each part is designed and built to coordinate so perfectly with every other part that the completed engine developes maximum strength.

The correctness of Hercules design is emphasized by a comparison of the power developed with that of other motors of equal displacement.

Five Main Bearings—

—eliminate crank arm deflections and the excessive vibrations due to these deflections.

—reduce internal losses and increase the mechanical efficiency.

—maintain extremely low bearing pressures.

—assure almost endless life of bearings.

The Hercules Motor Mfg. Company
Canton, Ohio

Sales Offices: Detroit Chicago Buffalo
San Francisco London, England

FOR TRUCKS AND TRACTORS

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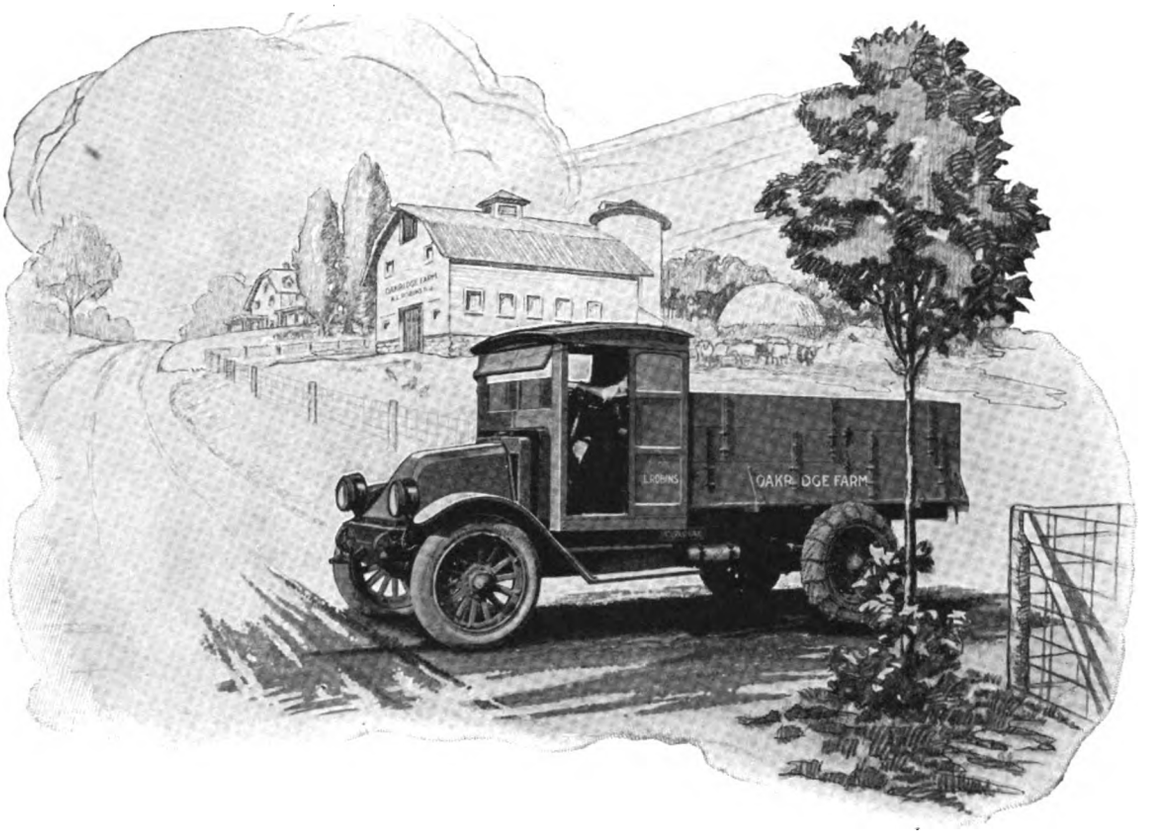

International Rail-less Railroads For Town Men and Country Men

GOVERNMENT statistics show that in 1918 alone, 350,000,000 tons of farm produce were transported locally to shipping centers in motor trucks. Each year these figures are increasing at a rapid rate. National official figures prove also that American farmers are the greatest users of motor trucks—among all industries. No progressive motor truck distributor can afford to overlook impressive **facts** like these.

International Motor Trucks sell with a minimum of effort. Like all International products, they have built an enviable reputation on four generations of satisfaction. Today Internationals are among the few leaders in total motor truck sales. Many thousands of them are at work on city pavements working in every line of industry, and thousands more are doing miscellaneous farm hauling.

International Motor Trucks are now made in nine sizes, ranging from ¾ ton to 3½ tons, and bodies are available for all purposes. Dealers now selling these popular trucks and who are still able to make truck selling arrangements with this Company have before them an opportunity of special note. Write the address below for facts in regard to International service, dealer terms, territory, etc.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA INC.

CHICAGO U S A

NINETY-TWO BRANCH HOUSES IN THE UNITED STATES

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MR MARLIN-ROCKWELL INDUSTRIES MR

The Most Perfect Spheres Ever Made

Chrome Alloy Steel Balls as developed by new S. R. B. processes especially for

SRB

Single Row Double Row

ANNULAR BALL BEARINGS

ONE TEN-THOUSANDTH of an inch is equivalent to about one-thirtieth of the thickness of a human hair. This delicate measurement represents the limit of error allowed by the standards of accuracy established by engineers for steel balls used in highest grade ball bearings. No two balls in such a bearing may vary more than that. Yet S. R. B. practice has far surpassed even this exacting standard.

S. R. B. accuracy has attained a point where the liquid measuring gauges which plainly show variations down to fractions of 1/10,000 inch fail to register any variation whatsoever either as to diameter or sphericity.

You will find S. R. B. Bearings in those motor cars, trucks and tractors whose names are instantly thought of as leaders in their respective fields. The same is rapidly becoming true as regards the leading makes of high-speed industrial equipment, machines and motors.

STANDARD STEEL AND BEARINGS INCORPORATED

Philadelphia Plainville, Conn. Norwich, Conn. New Haven, Conn. Pittsburgh
Standard Roller Bearing Co. *Standard Sales and Service Distributors in Principal Cities* Braeburn Steel Co.

Executive Offices: 347 MADISON AVENUE, NEW YORK CITY

Controlled and Operated by

MARLIN-ROCKWELL CORPORATION

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A MAXWELL

1½ ton truck is a transportation investment which will pay the careful owner 100% dividend at the end of the first twelve months.

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Wilson
dependable MOTOR TRUCKS
Time Tested Transportation
The Strongest Proof of Excellence
65,000 Miles at $3.47 Monthly Cost
In Postal Telegraph Construction Work
You Can Establish a Profitable Motor Truck Business
The Armstrong Transfer Company Uses Wilson Trucks in Boston
This Truck Has Worked Above the Clouds
Why Do Motor-Truck Dealers Make Money?
"Reliability Is Unquestioned"
Inter-State Haulage Made Easy With Wilsons
"Does the Work of Five to Nine Teams"
Young America Safety First Club
A Nationally Advertised Truck
The reduced facsimile reproductions of 13 full page advertisements in the Saturday Evening Post, appearing during the last twelve months, represent but a part of the publicity behind Wilson trucks.
Every Wilson dealer benefits from this campaign of national advertising.
It is a guarantee to the buying public that here is a factory which believes in cooperating with its dealers.
Are You Selling an Unadvertised Truck?
Don't you really think the time, energy and money expended on account of an unknown product would be much more profitable when put back of a nationally advertised motor truck?
We have some valuable territory still unassigned and can make attractive dealer contracts to such men or organizations as meet our requirements.
Better get in touch with us at once
J. C. WILSON COMPANY
Detroit, Mich.

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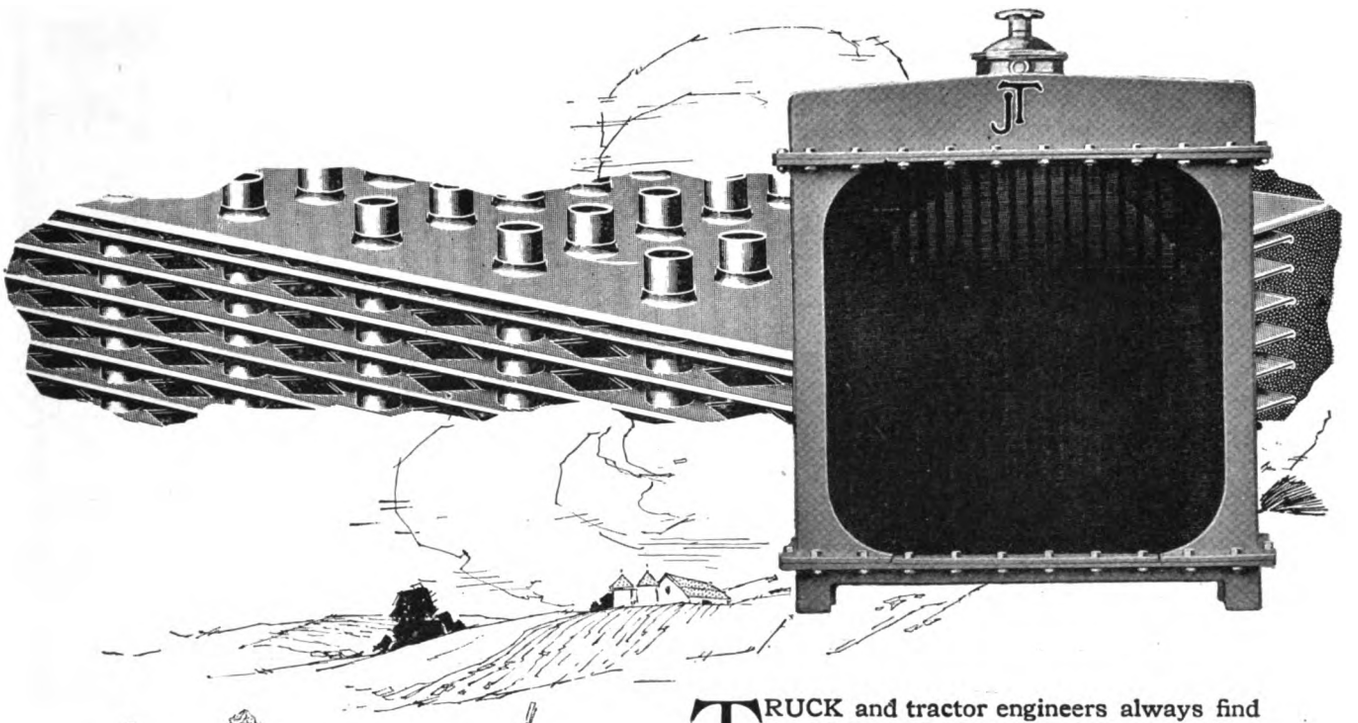

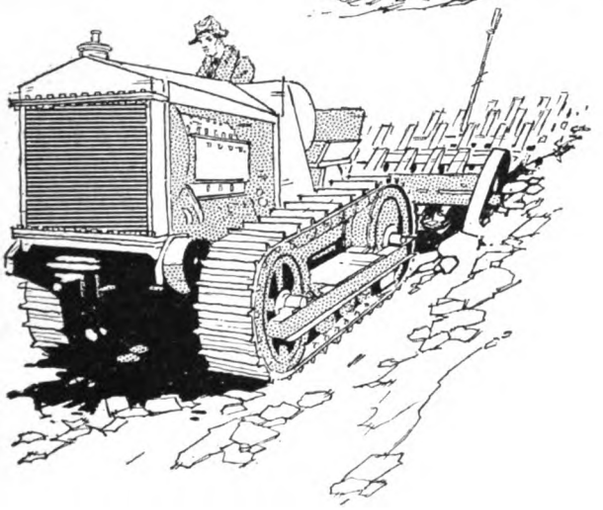

TRUCK and tractor engineers always find the McCord Engineering department firm in its recommendation of the continuous fin tubular radiator for trucks and tractors.

Briefly, the reasons are that it possesses strength, is light in weight, furnishes great resistance to blows, provides for free circulation of a large volume of air, and is easily repaired. Years of performance have proved those essential requisites.

Those truck and tractor manufacturers who are not now using this type of radiator will find it decidedly to their advantage to discuss the problem of cooling with the McCord Manufacturing Company. The position of this company in the industry and the wide experience which has been afforded it qualify an authoritative position.

It is well to bear in mind also that the position regarding this one type of radiator is obviously for greater efficiency in truck and tractor service because all types, both cellular and tubular, are built in the McCord plant.

We have in stock, for immediate shipment in limited quantities without pattern expense, standard designs of radiators to meet almost any requirement for trucks and tractors.

Factory and General Offices of the Industry's Largest Radiator Makers

Service Stations: **New York, 1926 Broadway**
Chicago, 1512 S. Michigan Ave.

McCord Manufacturing Company, Inc.

Manufacturers of McCord Gaskets and McCord Force-Feed Lubricators

Detroit, Mich.

McCord RADIATORS

Please mention "Power Wagon" when writing to advertisers.

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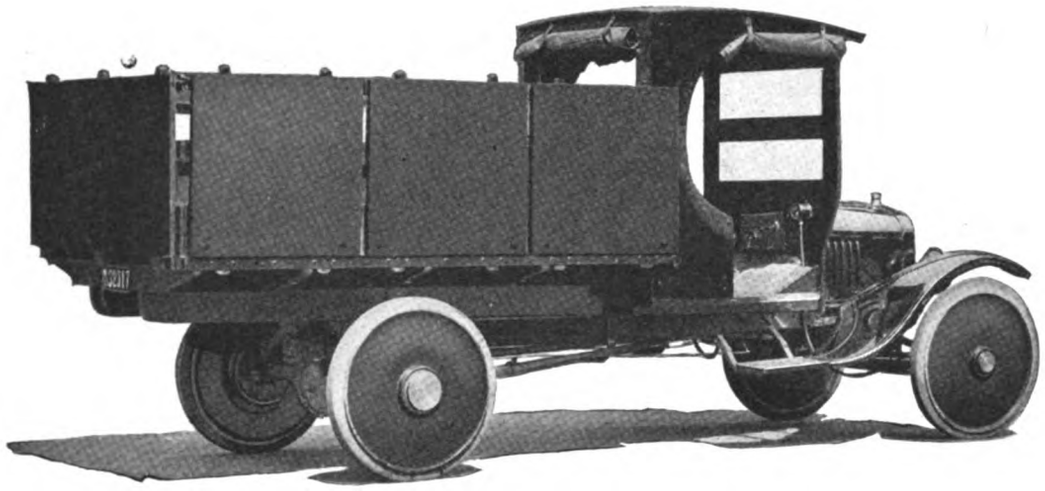
The Cornfield Resilient Wheel

Pneumatic Results—And More—With Solid Tires



Automotive Engineers endorse the Cornfield Resilient Wheel the Greatest Achievement in the Truck-Building Field

Numerous mechanical devices have been designed in attempts to stop the injurious vibration of motor driven vehicles.

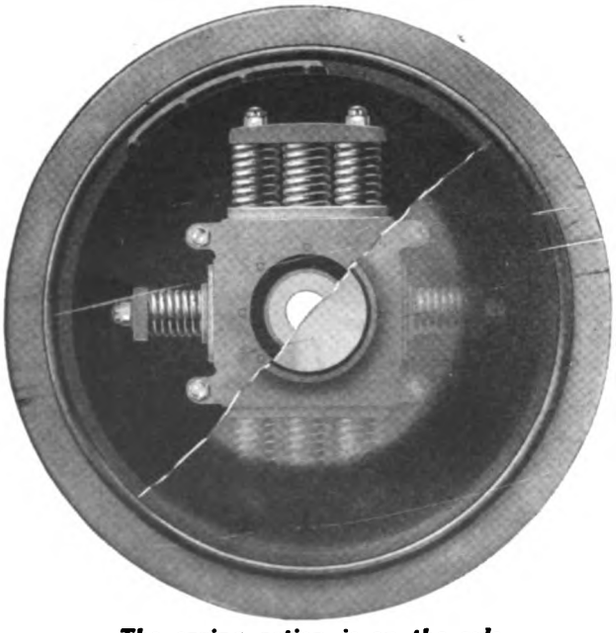
It has been accomplished to a great extent in passenger cars but trucks still rack to ruin over rough pavements and uneven roads.

The Cornfield Resilient Wheel acts on an entirely different principle. It floats the axle and the entire load.

Prominent automotive engineers have given Cornfield Resilient Wheels their approval.

The spring suspension in this wheel is so evenly balanced that the chassis and load are floated. This wheel reduces the resistance to the power of the motor.

It goes a long way toward eliminating vibration. It minimizes tire wear and increases mileage on gasoline used.



The spring action is on the axle Springs do not revolve with wheel

Cornfield Resilient Wheels Are Now Made in Full Sets for Ford One Ton Trucks and Other Light Trucks.

Send for complete descriptive catalog. It shows all details of construction. It is technical enough to prove to the engineer the practical value of the wheel. It is simple enough to be understood by the man who does not know mechanics.

Cornfield Wheel Co., Inc.

Anna Place Detroit, Mich.

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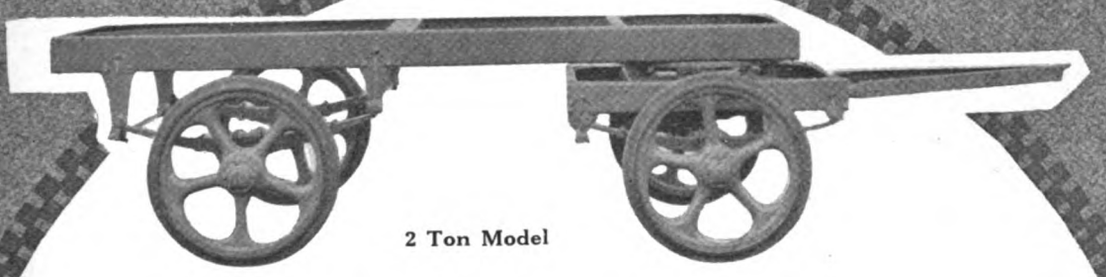
SELL EFFICIENT TRANSPORTATION

Which Means Your Truck—Plus

Automotive Trailers

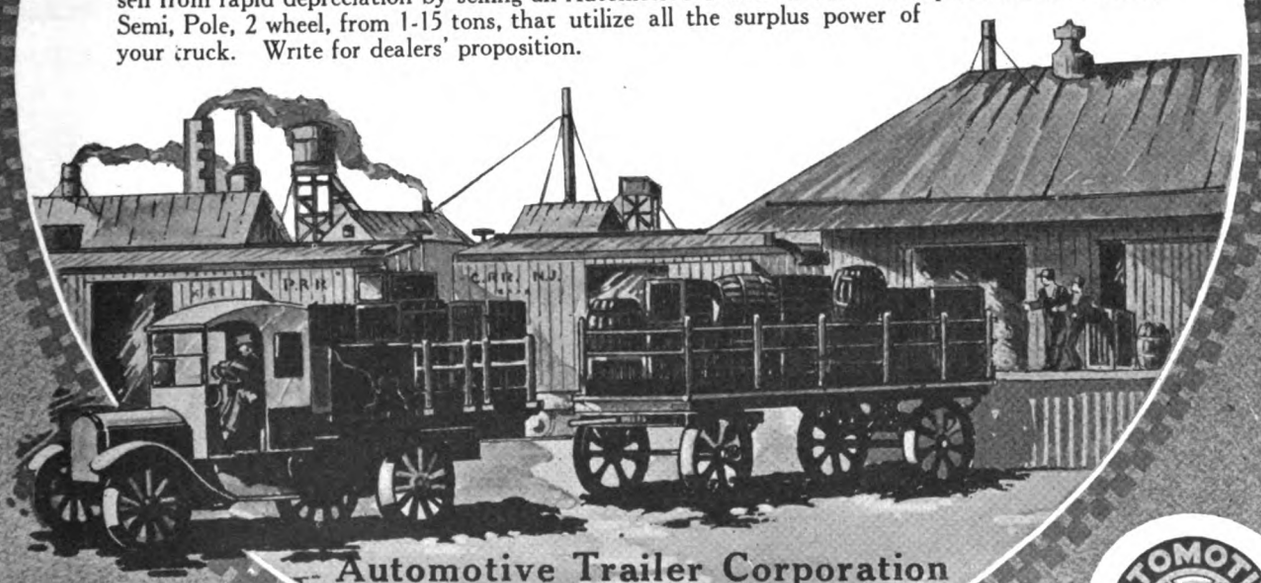


2 Ton Model

Freight Car of the Highway

Your truck **alone** cannot furnish efficient transportation. The reason for this is due to the fact that a Motor Truck, with its limited loading space, can **carry** only one-fourth of what it can **haul.** To really furnish your customers with efficient and economical transportation it is necessary to **sell a Trailer with every Truck.**

Earn the big profits involved in the sale of Automotive Trailers and protect the trucks you sell from rapid depreciation by selling an Automotive Trailer as well. Complete line of 4 wheel, Semi, Pole, 2 wheel, from 1-15 tons, that utilize all the surplus power of your truck. Write for dealers' proposition.



Automotive Trailer Corporation

Factory and General Offices
SPRINGFIELD, ILL.

AUTOMOTIVE ATC TRAILER

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Molybdenum Steels

Independent, Unbiased Opinion

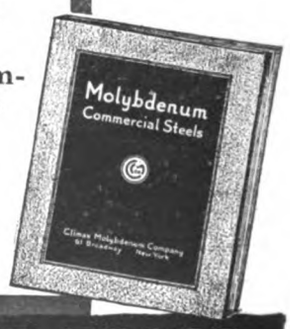
THE statements of one of the largest alloy steel companies in this country, quoted below, express the consensus of opinion of all the steel works and consumers who have had experience with Molybdenum Steels.

".....the toughness, as indicated in Tensile Tests by the Reduction of Area, being greater for a corresponding amount of strength, as indicated by the Elastic Limit, than is the case with any alloy steels previously used. The wide hardening ranges of the Molybdenum Steels, and the fact that draw-back temperatures have little effect between very wide limits, render the heat treatment extremely simple. .....Their machining properties are such that in comparison with other alloy steels of the same Tensile Test values, they will be found to machine much more readily.....They are the toughest and strongest alloy steels."

All of the data contained in our book, "Molybdenum Commercial Steels," has been given to us by independent and unbiased manufacturers and consumers.

Copies may be obtained upon application to

Climax Molybdenum Company – or – The American Metal Company Ltd.
61 Broadway ——— New York
Climax Molybdenum Company is the Largest Producer of Molybdenum in the World



PROVEN IN WAR FOR THE TASKS OF PEACE

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HIGHWAY TRAILER

EDGERTON WISCONSIN

The Largest Trailer Plant in the World

Savings Like These Sell Highway Trailers

The huge increase in demand for Highway Trailers is a direct and inevitable result of their efficient and economical service, proved by many of the largest truck transportation users in the world.

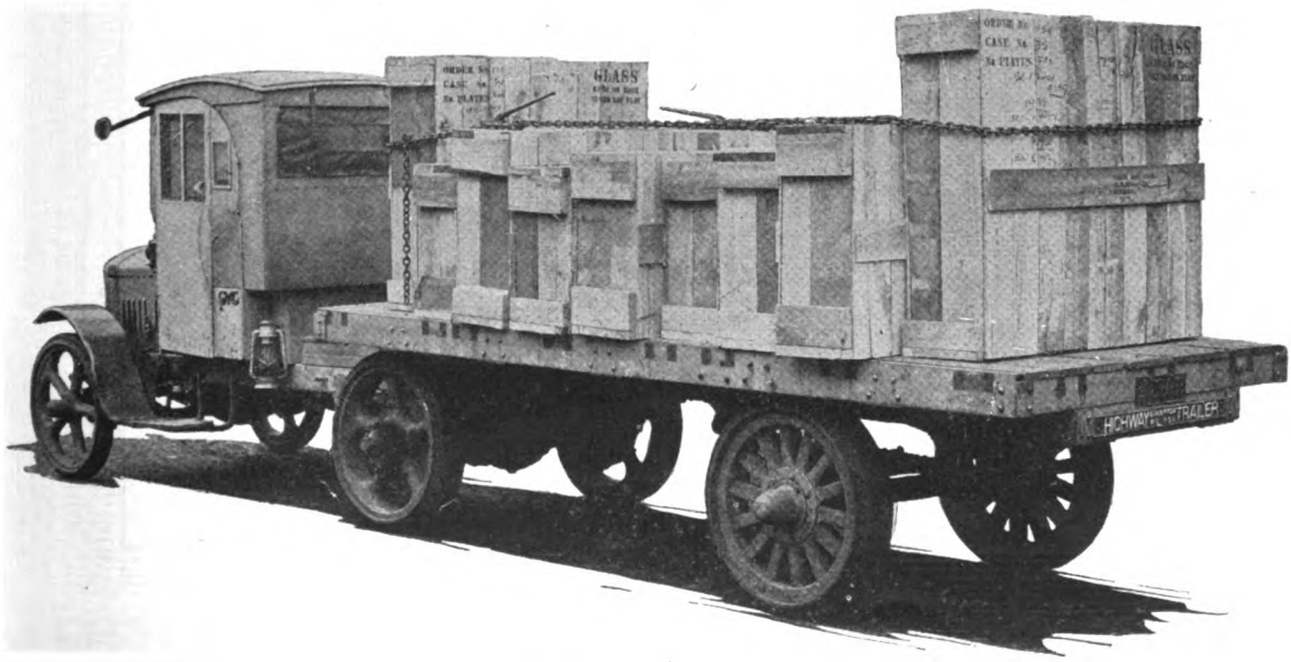
Giving service equivalent to added trucks, they save from $1,900 to $4,000 in first cost, and in operation save from $3,000 to $6,000 yearly. If interested in a dealer franchise write promptly.

Cost sheets of the Timroth Motor Express Company of Chicago, operating a large fleet of Highway Trailers, in connection with 150 trucks, show an average net earning of $25 a day for each trailer. That means $7500 a year, for each trailer, basis 300 days.

Cost sheets of the Towars Creamery Company of Detroit, show that each of 5 Highway Trailers saves a daily net average of $18.96 over haulage costs with trucks alone. That is a yearly earning of $5,688 for each trailer.

A Few Large Truck Operators Using Fleets of Highway Trailers

U. S. Army and Navy
"Piggly Wiggly" Chain Stores
Headquarters, Chicago, Ill.
The National Tea Company
Chicago, Illinois
The Consumers Refining Company
Chicago, Illinois
Timroth Transfer Company
Chicago, Illinois
Cadillac Motor Car Company
Detroit, Michigan
The Timken-Detroit Axle Co.
Detroit, Michigan
Wisconsin Telephone Co.
Milwaukee, Wisconsin
Manitowoc Ship Yards
Manitowoc, Wisconsin
Fairbanks-Morse Company
Beloit, Wisconsin
Chicago Telephone Company
Chicago, Illinois
Melchior, Armstrong & Dessau, Inc.
Buenos Aires, Argentine
Montevidio, Uruguay
Barbados Islands
Lindeteves-Stokvis Co.
Amsterdam, Holland
DUTCH EAST INDIES
Semarang-Soerabaya-Batavia
Tegal-Bjokarta-Bandoeng
Medan-Makassar
T. E. M. A.
Buenos Aires-Shanghai
Towars Creamery Company
Detroit, Michigan
City of Washington, D. C.
The Milwaukee Elec. Railway & Light Company
Milwaukee, Wisconsin



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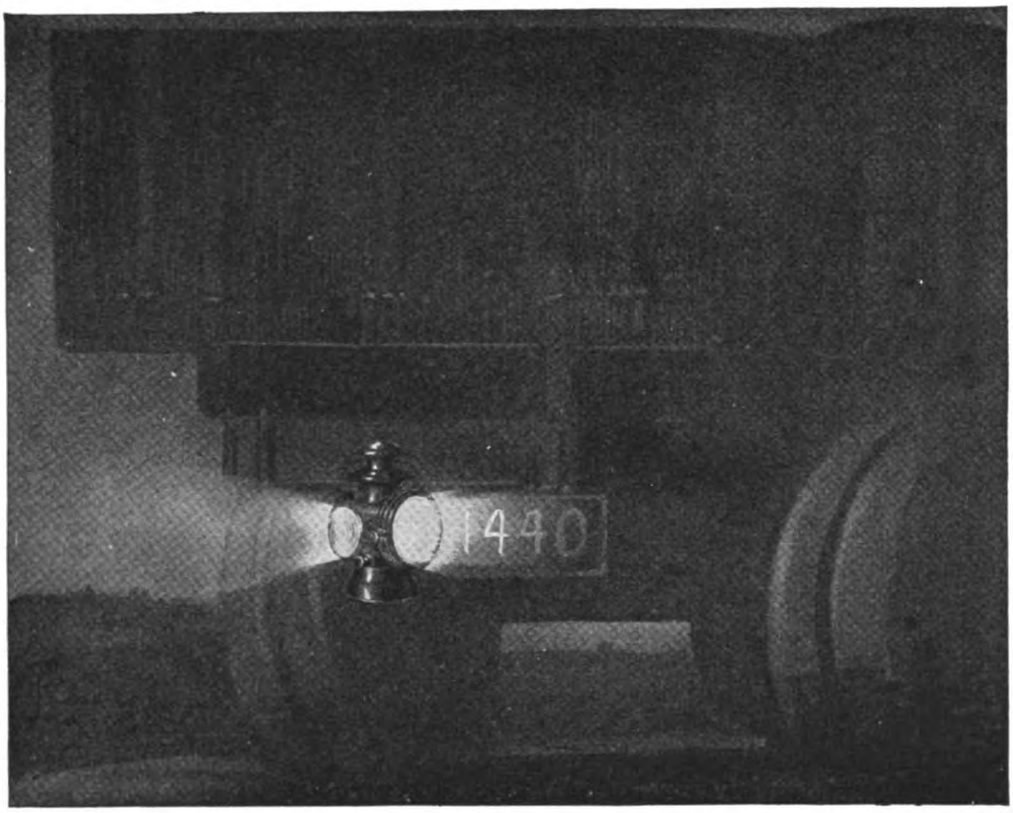

The Always *Reliable* Rear Light
DIETZ "ROYAL" TAIL LAMP

Dietz "Royal" Tail Lamps (Cold Blast) for Kerosene

DIETZ "Royal" Tail Lamps are reliable, law abiding "eyes in the rear" that help save life and lawsuits.

The "Royal" Tail Lamp is a kerosene burning, cold-rolled steel lamp, constructed with an inner and outer shell. It operates on the Dietz "Cold Blast" combustion system, which insures steady burning and double the light of single shell lamps.

Dietz "Royal" Tail Lamps mate with Dietz "Royal" or "Champion" Side Lamps.

Send for Catolog

R. E. DIETZ COMPANY
Founded 1840
60 LAIGHT STREET NEW YORK

JAMES BARNES, Sales Manager, Motor Truck Lamp Department
CARTER BUILDING, Rochester, N. Y.

DIETZ LAMPS

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General Motors Trucks

What of The GMC Future?

The years of conscientious effort spent on GMC Trucks are yielding their reward in the remarkable reputation the truck has built for itself.

Wherever you go you will hear consistent praise for GMC Trucks. Everywhere they are classed only with products of highest merit.

From a position among the practically unknown trucks a few years ago this leap to first place has come about through the GMC policy of real quality.

To be a dealer or distributor of GMC Trucks is to be, first, the sponsor of a product of top-notch merit; second, the representative of a monster organization specializing on motor trucks.

Behind every factor concerned in the manufacture of GMC Trucks is plenty of capital in the form of money, factory equipment and organized mechanical knowledge.

These things mean not only present success, but future promise of profit. A greater future is about to open up to all who are interested in GMC Trucks. To be a GMC representative is a fortunate position to be in at this time.

GENERAL MOTORS TRUCK COMPANY
One of the Units of the General Motors Corporation
PONTIAC, MICH., U. S. A.

(690)

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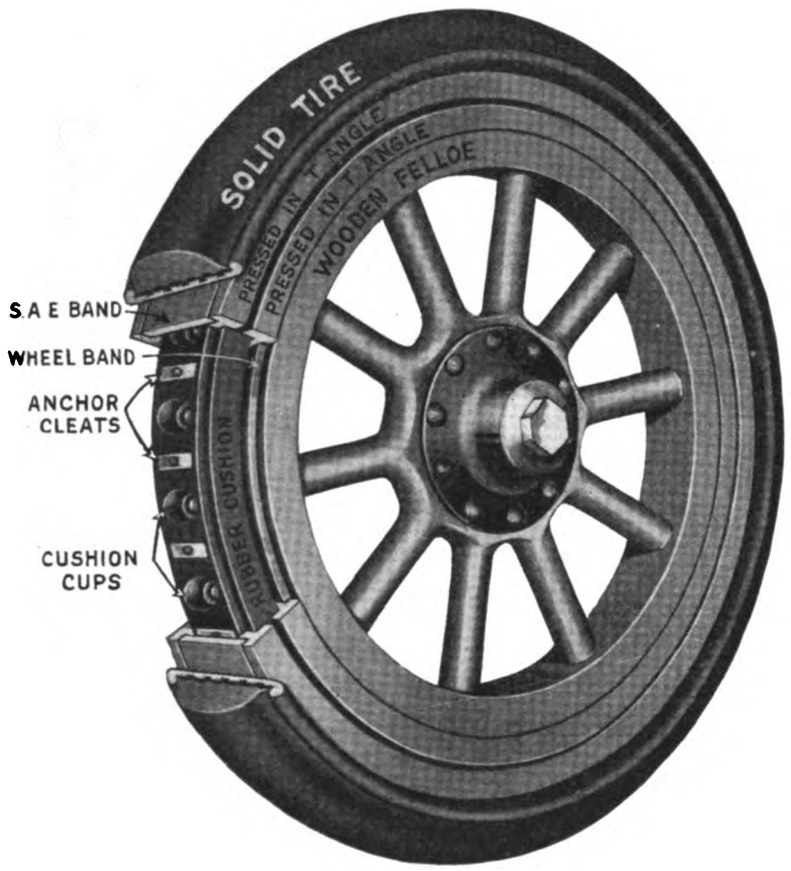
MARTIN
CUSHION WHEELS
for Motor Trucks

No bolts
No nuts
Pressed on
Throughout
Light
Strong
Resilient
Durable



Backed
by
Nine Years'
Experience
in Building
Good
Cushion
Wheels

Adopted for Standard Equipment on
"OLD RELIABLE" MOTOR TRUCKS
1½ to 7 Ton

MARTIN CUSHION WHEEL CO.
311-13 N. Sangamon St. **CHICAGO, ILLINOIS**

Branches and Service Stations in All Principal Cities

QUOTATIONS SENT UPON REQUEST

Please mention "Power Wagon" when writing to advertisers.

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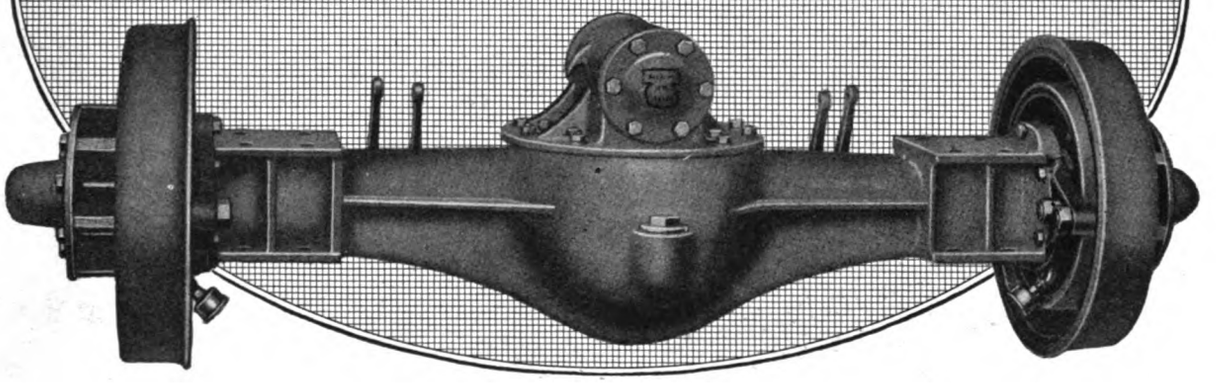
WISCONSIN AXLES



Keeping Faith With Our Customers

For nearly a year the demand for Wisconsin Axles so far exceeded our production facilities that we were unable to accept new accounts without grave injustice to our old customers.

Now, with the completion of the new addition to our plant, our capacity is increased to a point where we can make prompt deliveries on new business. Our present line includes 1, 1½, 2, 2½, 3½ and 5 ton capacities—the most complete line of worm-drive rear axles made in this country. Each model has separate bearing lay-outs, shaft sizes, housings and differentials. There is no duplication and customers are not permitted to over-rate these capacities.

Manufacturers of cheap trucks cannot afford to use our product. Manufacturers of high-grade trucks cannot afford to place orders without careful consideration of the Wisconsin line.

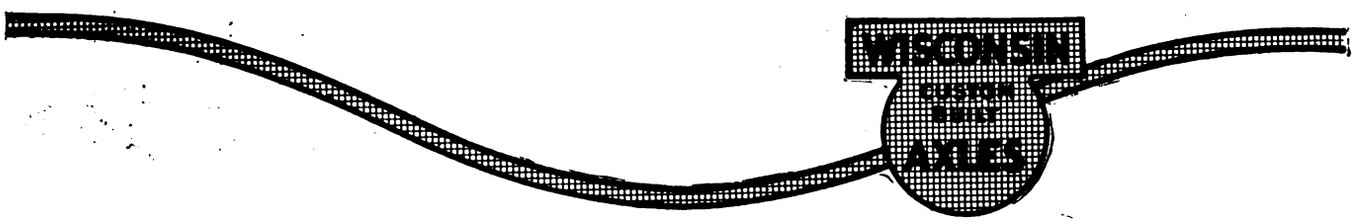
The time is soon coming when trucks will have to be sold, not apportioned out to waiting buyers.

When that time does come Wisconsin quality and service will place the manufacturers of Wisconsin equipped trucks in a strong position.

We have kept faith with our customers and shall continue to do so.

WISCONSIN PARTS COMPANY

OSHKOSH, WISCONSIN



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Fully equipped from the first!
From an announcement of Oshkosh 4-Wheel-Drive Motor Trucks in 1918.
A Complete Truck—Not a Skeleton
The Oshkosh 4-Wheel-Drive Truck carries as standard equipment most of the "extras" of the ordinary truck.
The comfortable all-weather cab is standard equipment on the
OSHKOSH
Electric Starting and Lighting Of Course!
OSHKOSH 4-WHEEL-DRIVE TRUCK
Designed and Built for Pneumatic Tires
—No Oshkosh 4-Wheel-Drive Truck has ever been sold with any other tire equipment
The Oshkosh 4-Wheel-Drive Truck pioneered in the use of pneumatics. It was designed solely and specifically for the use of pneumatics.
Our guarantee is nullified by the use of solids. We were
First to include pneumatics all around as standard equipment

"Oshkosh" means "no extras"

In addition to

Pneumatic Tires all around, Electric Lighting and Starting, Comfortable, all-weather cab

You get—

the following as standard equipment in the Oshkosh 4-Wheel-Drive Motor Truck:

Demountable rims (one extra), Electric Warning Signal, Stewart-Warner Vacuum System, Speedometer, Speed Governor, Ammeter, Built-in Bumper.

"Fully equipped" means just that, when applied to the Oshkosh 4-Wheel-Drive Trucks. No extra expense, no delays for equipment. You get the truck ready to drive away.

"Power on all four" in the Oshkosh 4-Wheel-Drive means ability to pull through and deliver the load even under conditions where other trucks become stalled.

Oshkosh Motor Truck Mfg. Co., Oshkosh, Wis.

Oshkosh 4-Wheel-Drive Truck
Two Ton Capacity

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Reliable Motor Statistics

Our monthly reports and yearly summaries tell the number of Passenger and Commercial cars registered. They can be secured for individual counties, single states or the entire United States.

Passenger Cars or Trucks

This gives you a complete analysis of any given territory or the country as a whole. By using them you can pick out the strong and the weak places in your organization, keep an accurate check on each dealer, and know whether he is getting his share of the possible business or whether it is going to his competitor.

Mailing Lists

In addition to the statistical service, we are in position to furnish lists of Passenger Car, Ford and Truck Owners according to your own specifications. We have a special list of Truck Fleet Owners in the United States, operating from three to ten or more trucks.

Write Today

for the July, 1920, edition of our free book of automobile, motor truck and motorcycle statistics. Let our organization of 400 people aid you in making a more intelligent analysis of your markets and your selling problems, as well as relieve you of the burdensome details of your mailing campaigns.

Motor List Company

Martin Tuttle, Proprietor

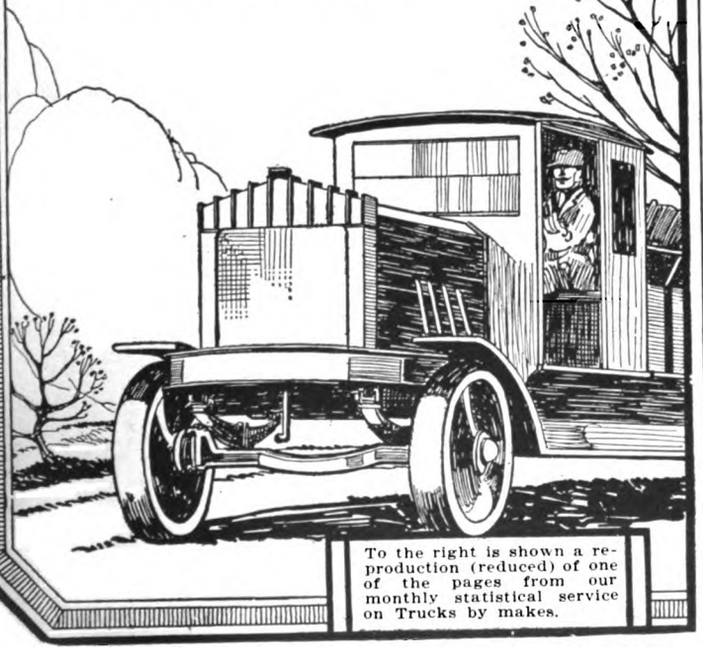
405 Grand Ave. Des Moines, Iowa

Branch Offices:

636 Huron Road, Cleveland, Ohio — Chas. G. Tobin, Manager

310 Marquette Bldg., Detroit, Mich.

26 Treat Place, Newark, N. J. — Edw. G. Pratt, Jr., Manager



To the right is shown a reproduction (reduced) of one of the pages from our monthly statistical service on Trucks by makes.

Page 6 INDIANA COMMERCIAL CARS January 1920

MARION COUNTY

Acme	3
American	1
Armleder	1
Autocar	9
Briscoe	1
Buick	13
Cadillac	3
Chevrolet	3
Commerce	2
Corliss	2
Denby	2
Diamond T	2
Dodge	11
Federal	11
Ford Com	465
Ford Truck	12
Garford	2
Gary	1
G M C	5
Gramm Berns	11
Grant	1
G V C	1
Hudson	1
Hupmobile	3
Indiana	10
I H C	52
Kelly Spring	9
Kissell	3
Master	2
Maxwell	31
Nash	1
Overland	14
Packard	9
Paige	2
Pierce Arrow	3
Reo	27
Republic	21
Sandow	3
Selden	4
Service	11
Standard	6
Stegeman	1
Sterling	1
Stewart	8
Studebaker	5
U S	1
Velie	1
Vim	20
Walker	2
White	7
Misc (Small)	5
Misc (Large)	45
Total	870

MARTIN COUNTY

Ford Com	1

MARSHALL COUNTY

Buick	1
Ford Com	12
Gary	1
Little Giant	1
Reo	1
Republic	1
Service	1
Total	18

MIAMI COUNTY

Buick	4
Dodge	1
Ford Com	44
Ford Truck	1
Indiana	1
I H C	4
Maxwell	5
Reo	1
Service	1
Stewart	1
Misc (Large)	3
Total	66

MONROE COUNTY

Armleder	1
Ford Com	12
I H C	1
Stewart	1
Total	15

MONTGOMERY COUNTY

Dodge	3
Ford Com	16
Gramm Berns	1
Master	1
Overland	2
Republic	1
Studebaker	1
Total	25

Please mention "Power Wagon" when writing to advertisers.

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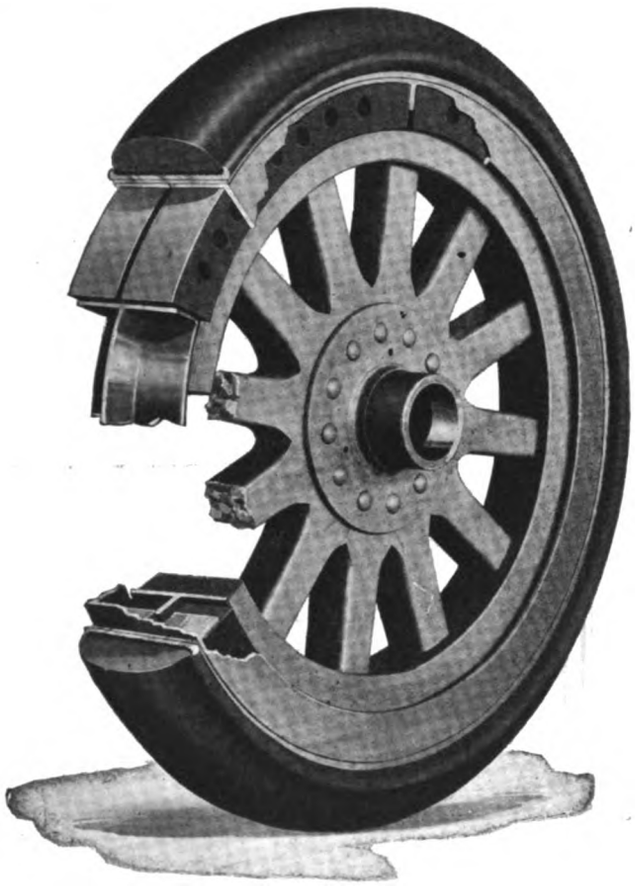
Universal TRUCK WHEELS

Steel Cushioned Wheels

HUBLESS FULL FLOATING

Mead Cushioned Wheels

A Practical Wheel for Trucks, Tractors and Trailers



This Wheel Excels in Resiliency, Efficiency, Durability and Economy.

Simple in Construction

Reduces Gasoline Expense 25%

Mechanically Correct in Construction

Reduces General Upkeep Expense More than 50%

Vibrations and Hammer Thrusts from Road Contact are Absorbed in the Wheel

Protects the Engine and Chassis against Crystallization

The Wheel Designed with a Knowledge of Traffic Conditions

A Practical Wheel for Any Truck on Any Road with Any Load

This Wheel Meets the Growing Demand of Truck Users for Reducing Upkeep, and for Protection from Engine, Tire and Chassis Troubles.

A Wheel With Perfect Drawbar Pull

This Wheel Rides with the Resiliency of Pneumatic Tires and is not injured by Oils, Acids, Salts or Other Chemicals, because the Rubber is fully protected.

Initial Investment Compensated by Reduced Aftercost Plus Upkeep

PITTSBURGH TRUCK WHEEL CORPORATION
General Offices: 405 Fulton Building
PITTSBURGH, PA.

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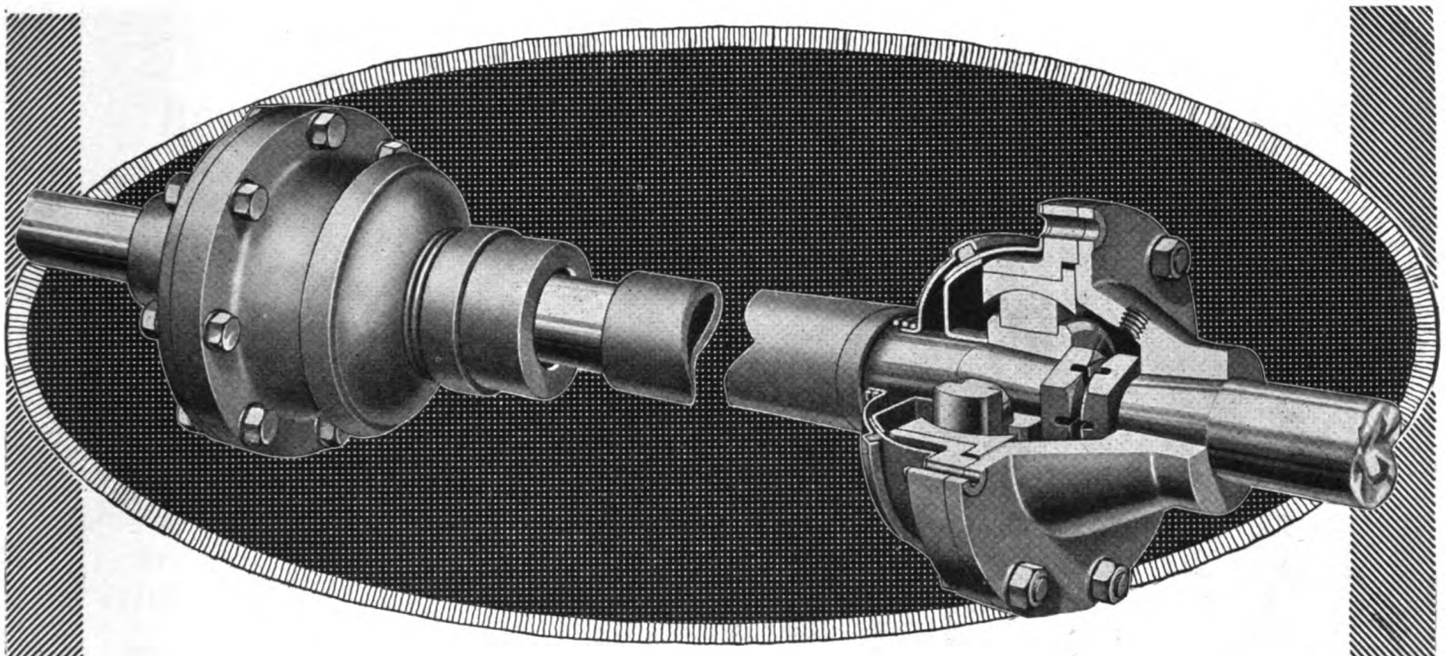

Pick
UNIVERSAL JOINT

Pick Compact Construction Gives Greatest Strength

The compact construction of the Pick Universal Joint ***centers*** all strains—it brings them ***inside*** the center of strength.

The Pick Universal Joint overcomes every form of road shock.

It transmits power in a steady, even flow, without any interrupted motion.

Its compact construction relieves pressure on transmission and rear axle bearings.

The Pick Universal Joint is the strongest joint made.

Wear is reduced; strains are evenly distributed; full flexibility is secured and positive lubrication is patented in the Pick Universal Joint.

Get details. Write for Blue Print Portfolio.

Carl Pick Company, *Manufacturers,* West Bend, Wis., U. S. A.

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Victor

1½ and 2½ tons

The Victor worm drive motor truck is designed to stand rough usage and to give long and continuous service. That it is doing this is evidenced by repeat orders and its large number of satisfied users.

Victor dealers have the satisfaction of knowing that the Victor will make good on every claim that is made for it.

Your territory may still be open.

Write for particulars.

Victor Truck Company

St. Joseph Michigan

Please mention "Power Wagon" when writing to advertisers.

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THE SATURDAY EVENING POST
Washouts,
Mountain Roads, Sandy Deserts—
and Sheldon Worm Drive Axles
THIS truck—a house on wheels, weighing over seven tons and running on Sheldon 2½-ton front and rear (W-21) axles—made an eventful trip of 3279 miles from Marion, Indiana, to Los Angeles, California.
It was a gruelling test for every part of the truck, but particularly so for the axles.
Every possible bad-road condition was encountered.
Sometimes the truck ploughed for miles through deep sand; then a stretch of sticky gumbo mud. Once it was driven eight miles down a river bed.
All the way over the Continental Divide there were stiff, rocky grades
with jolts, jars, and bumps of every variety. Many times a minute the weight of the truck was thrown on one or two bearings, but Sheldon Axles took the severe punishment without a whimper.
Sheldon Worm Drive Axles are built with sufficient over-strength to withstand much more than ordinary heavy-duty service even on bad roads.
They are designed on the locomotive axle principle—wheels rigidly
fixed to the revolving axle—a wide [illegible] that gives extra [illegible] to resist [illegible] shocks and stresses, which are the greatest enemies of axles.
Sheldon Axles are worm-gear drive with ball bearings that need no adjustments during the entire life of the truck.
Made for all trucks from ½- to [illegible] Capacity, and now on [illegible] Sheldon Axles by the [illegible]-shaped hubcaps and double-anchor trade-mark.
SHELDON AXLE AND SPRING COMPANY
Wilkes-Barre, Pa.
Manufacturers of Sheldon Axles for Motor Trucks and Sheldon Springs for Trucks and Automobiles
Sheldon Axle FOR MOTOR TRUCKS
SHELDON AXLE AND SPRING COMPANY
Sheldon WORM DRIVE Axles
SHELDON AXLE AND SPRING COMPANY
condition must be compensated for. It is easy to see that if you should put a fixed thrust bearing, such as a taper roller, on either end of the worm, then you must either locate or adjust them very loose or else you will surely have trouble when the worm expands. If you adjust these tapers loose enough you will get some pounding, with wear, heat, and possible ultimate failure as a result. In Sheldon construction, by the use of ball thrust bearings, we securely fasten the worm at the rear end and permit the front end to move, by allowing the annular ball bearing on the front end of the worm to be free to float—move forward and back—should the worm expand under extreme operating conditions.
From this statement of facts it will be seen readily that to attempt to use taper roller bearings to take both the worm thrust load and radial load on the one bearing is obviously [illegible] engineering. It means that you are robbing the worm of its very highest function, that of efficiency—and the complete success of this type of final [illegible] impairing [illegible] So, to users of you are not realizing your fullest anticipations of ideal driving
Illustrating absence of wedging in ball bearings and certainty of wedging in roller bearings. Note that in ball bearings, no matter from what angle the pressure is applied, it is impossible to produce a wedging action, while in roller bearings when a thrust is applied wedging is bound to occur. Action of thrust ball bearing may be likened to rolling a saucer around on a bed of balls as shown herewith.
19
SHELDON construction is now a matter of as close personal knowledge among the men who use trucks as among the men who make them. It pays to *educate* while *advertising*.

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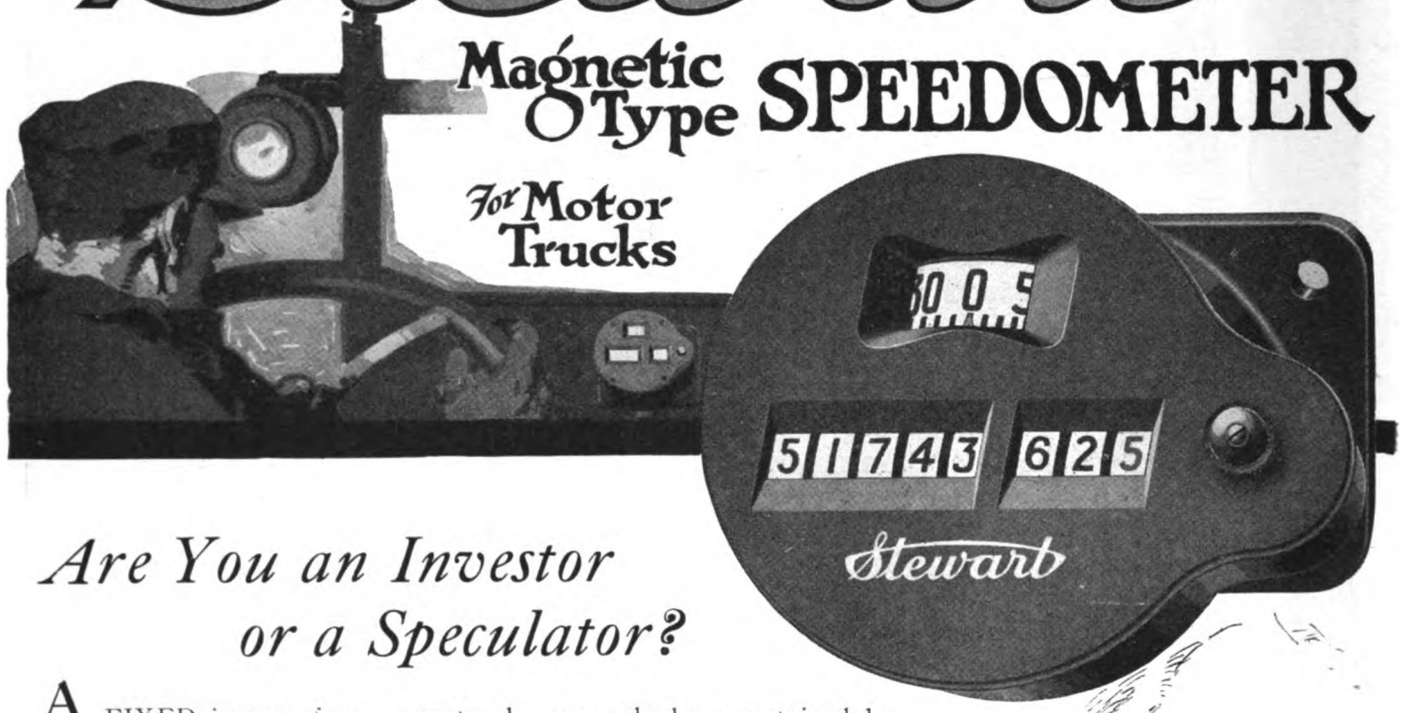
Stewart

Magnetic Type SPEEDOMETER

For Motor Trucks



Are You an Investor or a Speculator?

A FIXED income from your trucks can only be ascertained by determining the cost per mile. Do you want an unbroken series of cost records covering a long enough period of time to make them instant and trustworthy guides?

Would you bring to light the operating economics of one driver and the profit-eating carelessness of another?

Would you prove the qualities and brands of fuel, oil and tires?

Which is the cheapest and shortest route for delivery over a given territory?

Are you certain that your trucks are being operated at a minimum cost?

A Stewart Speedometer Will Tell You

To be operated most economically and profitably, every motor truck should be equipped with a Stewart Speedometer. It will answer all the above questions, and more. Will quickly pay for itself by reducing expenses.

Our special Truck Model was designed during the war for the U. S. Government. It will, therefore, stand up and render continuous service under the hardest usage.

Every truck should also have a Stewart Vacuum Gasoline System, a Stewart Warning Signal and be equipped with two Stewart Searchlights. Progressive truck and accessory dealers carry all these products as part of their regular stock.

Model 131 M

$35

Stewart-Warner Speedometer Corporation

CHICAGO, U. S. A.

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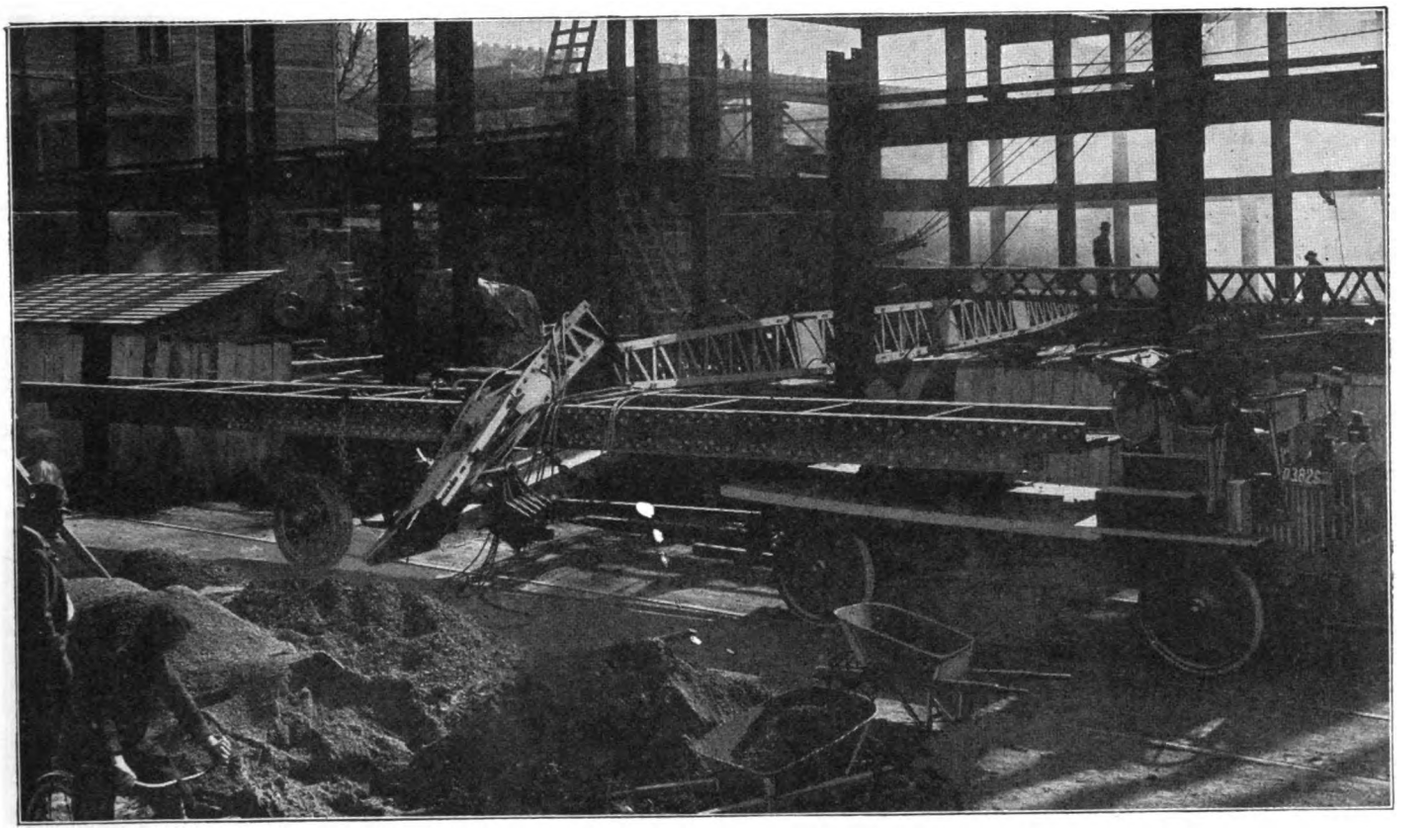

"The derrick broke, dropping the steel girder on the Warner Trailer"

WARNER MANUFACTURING CO.
Beloit, Wisconsin February 9, 1920

Gentlemen:-

On February 7th, 1920, your representative furnished us a D-30 Warner Trailer 5½-ton capacity to be demonstrated to us for the purpose of convincing our firm that a Warner Trailer would solve a number of hauling problems.

Your 5½-ton pipe trailer coupled to a 4-wheel drive truck carrying a steel girder which was 42'6" long, weighing 24,200 lbs., to the new Federal Reserve Bank of Dallas, was being raised off the truck and trailer by a big steel derrick and while the girder was suspended in the air one and one-half feet above the truck and trailer, the derrick broke, dropping this girder on the Warner Trailer which equaled a dropping weight, of that distance, around 48,400 lbs. Mr. W. H. Boatman, driver of the truck states after the accident happened, that there was absolutely no damage done to the truck or trailer in any way and we wish to tell you that this certainly convinces our firm that the stability of the Warner Trailer is beyond our expectation.

It took exactly three quarters of an hour for loading and delivering this girder.

Yours very truly,

MOSHER MANUFACTURING CO.

FH-VC per Ford Hicks

The above photograph illustrates an incident which is perhaps the most severe test to which any trailer has been put. The Warner Trailer sustained the shock of the steel girder falling on it, without being broken. This represented a dropping weight of *48,400 pounds.*

Read the accompanying letter and if you have a hauling problem let us show you how to cut your expense in half. There is a WARNER TRAILER for every purpose.

THE WARNER MANUFACTURING CO.
26 Main Street, Beloit, Wisconsin

WARNER
HEAVY DUTY
TRUCK TRAILERS
TWO AND FOUR WHEEL TYPES

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The excellence of Wolverine Trucks makes it possible for us to offer dealers a generous factory guarantee

Detroit, Mich., Nov. 15, 1919.
AMERICAN COMMERCIAL CAR CO.,
Detroit, Michigan

Gentlemen:—Your recent inquiry as to how we like the Wolverine Truck, should have received its answer from the fact that we purchased two of them this year. We surely would not have acquired the second if the first had failed to stand the gaff.

However, for your benefit, we will carry a little coal to Newcastle by stating that our two Wolverines are certainly holding up their end in demonstrating the three virtues that make a truck an invaluable aid in holding down existing high operative costs—efficiency, economy and dependency. In the expressive vernacular of the street, the Wolverine is unquestionably a peach.

CHAMPION BEVERAGE COMPANY,
F. Schmidt, Pres.

You have only to read what every operator of a "Wolverine" says to know that the standard units of which it is built are assembled into the finished truck in the most expert way.

Every truck that leaves our shipping dock is a perfect piece of rugged construction built to stand up under all conditions.

We have openings for a few progressive Distributors and Dealers.

If you are looking for a truck built of the best units of over-size strength that sells easily at a moderate price—and stays sold—you will be interested in getting Wolverine prices, discounts, terms and guarantee. If we are not represented in your territory write or wire us.

American Commercial Car Co.
DETROIT, MICHIGAN

February, 1920

For the AUTOMOBILE, MOTOR TRUCK, *and* TRACTOR

Empress

Empress Grease *and* Oil Cups

No. 249 Ratchet Grease Cup

This cup has long been a favorite with motor truck builders. Its simple and practical design and sturdy construction make it an ideal lubricator for the purpose. Cannot get out of order and withstands much abuse and hard usage; only four parts enter into its construction.

An internal locking device securely fastens the cap at every quarter turn, preventing its loss even when used in places of excessive vibration.

The plain exterior leaves nothing to catch dirt; easily cleaned and operated.

Made in seven sizes: 3/4″ to 3″ inside diameter. Five finishes: dull, polished and nickel-plated brass, rough and blue steel.

CATALOG R shows many other types equally good—WRITE FOR IT.

BOWEN PRODUCTS CORP.

Manufacturing and Sale Divisions:

AUBURN DIV., AUBURN, N. Y. MINNEAPOLIS DIV., MINNEAPOLIS, MINN
WINKLEY DIV., DETROIT, MICH. ZERK DIV., CLEVELAND, OHIO
Canadian Factory—CANADIAN WINKLEY CO., Ltd., WINDSOR, ONT.

Branch Sales Offices:

NEW YORK, 220 BROADWAY CHICAGO, 1607 OTIS BLDG.
BOSTON, 253-255 FRANKLIN ST. CINCINNATI, 409 LYRIC BLDG.
SAN FRANCISCO, MONADNOCK BLDG.

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TRADE
SPLITDORF
MARK
ESTABLISHED
1 8 5 8

and—

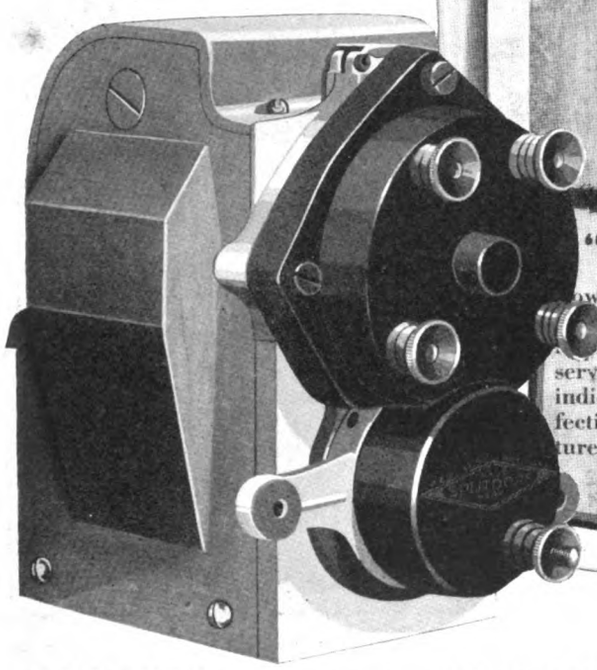
Mack
TRUCKS

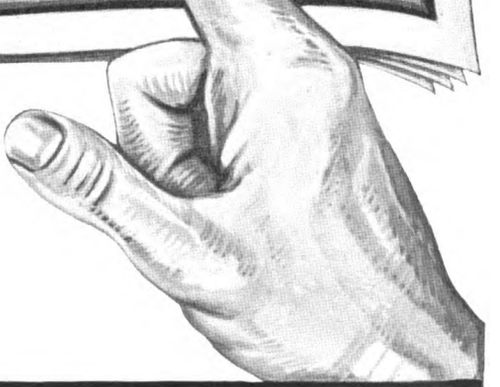
"PERFORMANCE COUNTS"

...ower and strength! These ...qualities of MACK Trucks ...ress themselves on all observers. They are the outward indications of that inward perfection of design and manufacture that keep MACK Trucks ...tantly on the job. Bodies ...ll kinds of service and ...loading and unloading ...too.

Capac... 7½ tons. Write for cata...

INTERNATIONAL MOTOR COMPAN... YORK





SPLITDORF Aero Magnetos are a vital part of "that inward perfection of design and manufacture that keep Mack Trucks constantly on the job." As standard equipment on Mack, and other good trucks Splitdorf Magnetos insure the high standards of performance that the experienced truck user demands.

Made by SPLITDORF ELECTRICAL CO., Newark, N. J.
WORLD'S LARGEST MAKERS OF IGNITION EQUIPMENT
Also Manufacturers of Splitdorf Peened Piston Rings

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LEE TRAILERS

Make Motor Trucks Pay

If one of your customers asks your opinion about trailers, are you prepared to give him a good trailer talk?

No matter whether he will ever be a truck prospect again, you owe it to yourself to sell him a trailer if you can.

Why not be something more than a truck dealer? Be a transportation engineer and sell trailers incidentally.

Many truck dealers early realized the advantage of selling trailers. Their truck sales have increased.

A wise dealer sells trucks and trailers, preferably *LEE* trailers.

By doing so he makes two blades of grass grow where one grew before.

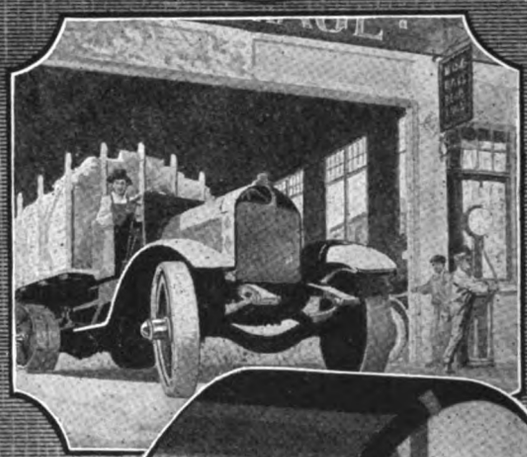
Send for Lee Line data sheets.

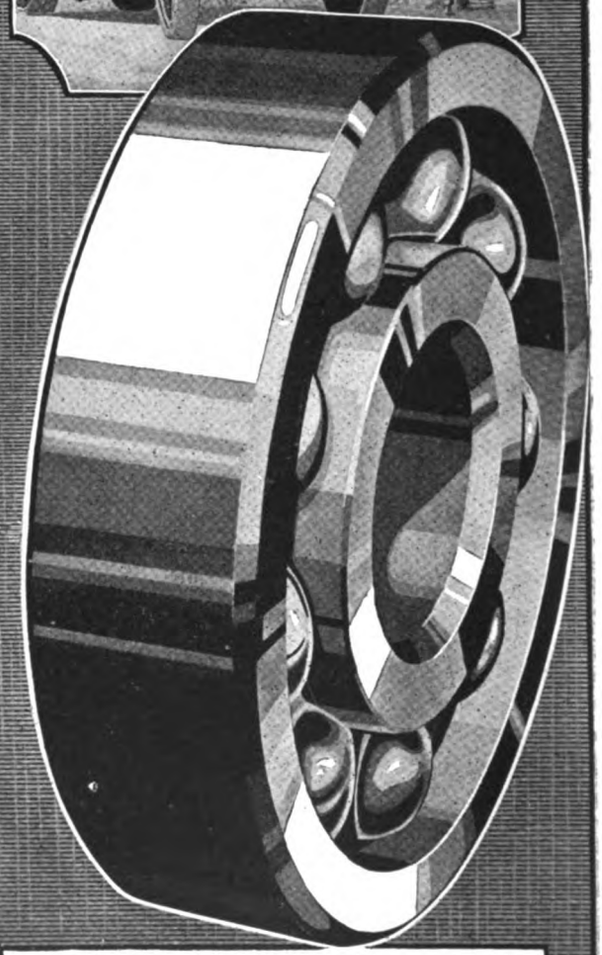
LEE LOADER & BODY CO.

Builders of Automotive Auxiliary Equipment

2337 So. La Salle St. Chicago

NEW DEPARTURE Ball Bearings





Over 80 of the best trucks made use New Departure Ball Bearings at points where the reduction of friction and wear is most important. The satisfactory service given is proved by their use continuously, in most cases over a period of years.

THE NEW DEPARTURE MANUFACTURING CO.

Detroit Bristol, Conn. Chicago

634

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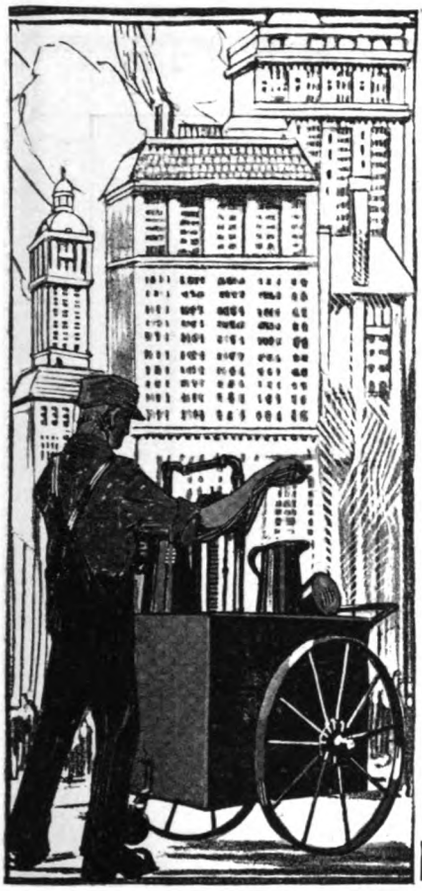

Lubricating oil of known quality and quantity

is essential to motors for efficient performance.

Learn the lubricating oil suited to the motor; then be sure that the oil enters the crank case or bearings as pure as when refined.

You can't use poor oil and get the motor to produce its greatest mileage.

Oil should be transferred from the drums or barrels into BOWSER outfits where it is never exposed to the atmosphere. It can then be supplied to the truck in definite quantities without waste, danger or inconvenience.

The BOWSER system is best designed to do this work. THERE IS A BOWSER OUTFIT SUITABLE FOR YOUR REQUIREMENTS.

Bowser Fig. 154 Portable Wheel Tank for Lubricating Oil.

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Fort Wayne, Ind., U. S. A.

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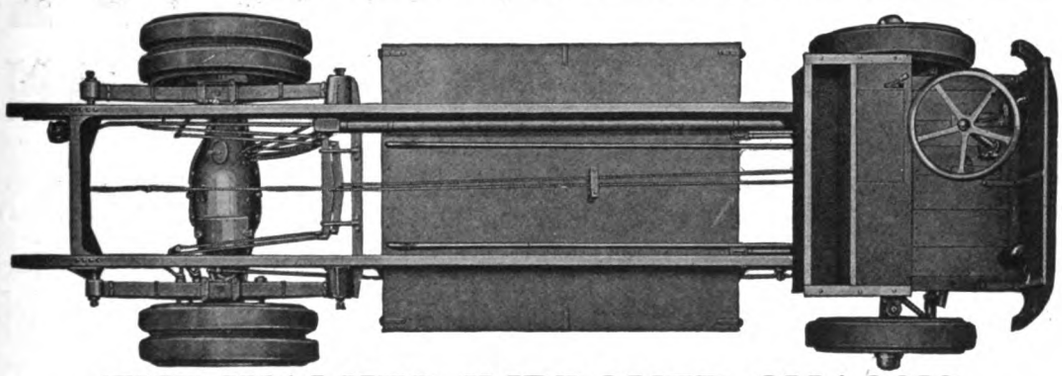
S. F. Bowser & Co., of Texas. Dallas
Offices in principal cities of U. S. and Foreign Countries

WALKER ELECTRIC TRUCKS



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THE UTMOST IN *SIMPLICITY*—ONE THOUSAND FEWER PARTS THAN ANY GASOLINE CHASSIS
WALKER ELECTRIC CHASSIS ARE OPERATING *PROFITABLY* IN ALL INDUSTRIES

ASK ANY WALKER USER, BRANCH OR DEALER

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America's Leading Manufacturer of Electric Trucks and Tractors
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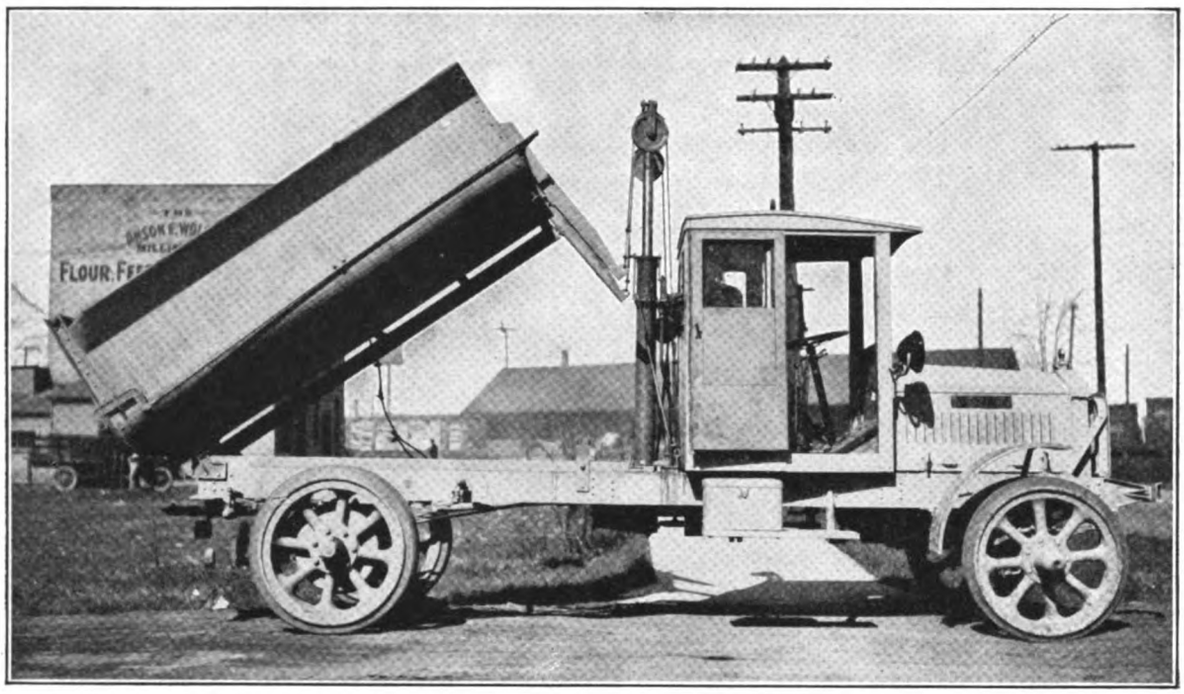
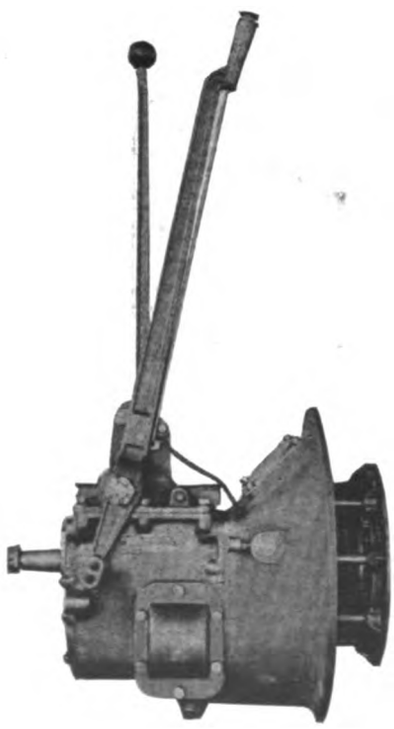


Reynolds Motor Truck Company
Mt. Clemens, Michigan



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The steady growth of Fuller & Sons Mfg. Co. has proven that there is a great demand for the highest grade transmissions.

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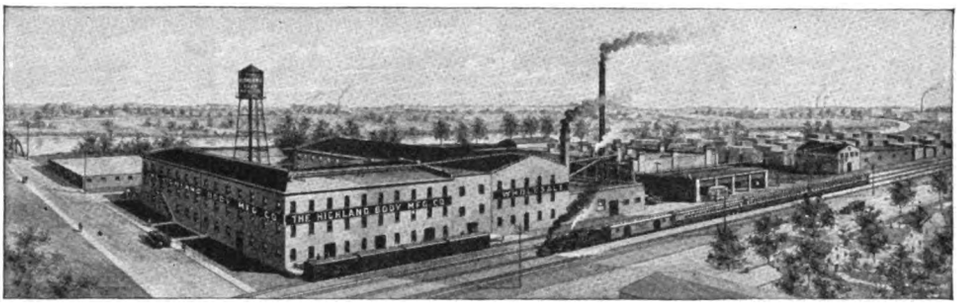

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Gramm-Bernstein Trucks have an enviable name for economy.

Their cost of operation is exceptionally low. Their cost of upkeep is likewise low. Their life is so long that these costs, spread over a period of years, are reduced still further.

All Gramm-Bernstein worm-drive models carry, as standard equipment, accessories which are essential to the satisfactory operation of any truck, and which are worth $550 to $600 at today's prices.

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Lima, Ohio, U. S. A.
Builders of the First Liberty (U. S. A.) Truck

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Get after the Side-Dump Body Business and increase the output of Trucks.

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AUTOMATIC SIDE-DUMP BODY

To increase the Sales of Trucks put on a Side Dump Body and Watch your Business Grow.

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Dumps a 3 yard load in a minute and a half.
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Sales Dept. A
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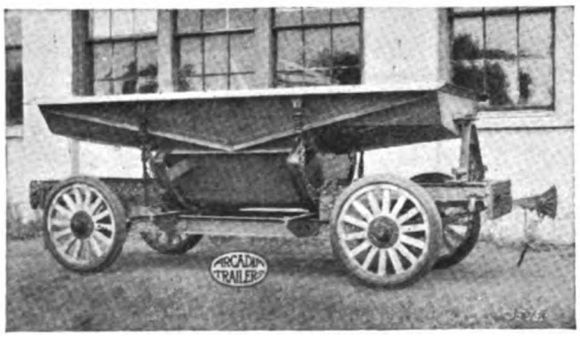

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Trailerize Your Trucks With Arcadia Trailers
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"MERCHANTS' DISPATCH"

The three vital links of the truck chain

Atlas Motor Maximum power at the speed you drive—22 miles per gallon of low grade fuel (unloaded).

Atlas Transmission A 100% perfect job—we have never had to replace a single broken part.

Atlas Worm-Drive Rear Axle Every worm-drive advantage, without the excessive weight — readily accessible — foolproof in adjustment because of the three point bearing.

Individualized Body Equipment for Every Business

ATLAS TRUCK CORPORATION
YORK, PENNSYLVANIA

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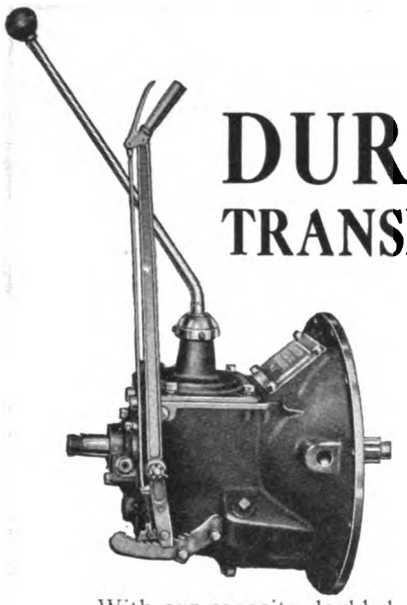

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With our capacity doubled during the past few months, we are now in large production on transmissions suitable for trucks up to one-ton capacity or speed wagons.

Our present designs and production methods are the result of years of development. We are in a position to deliver transmissions that are RIGHT in every particular. Your inquiries are solicited.

DURSTON GEAR CORPORATION
SYRACUSE, N. Y.

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There isn't a franchise on the market today that is more fair and liberal to the dealer.

There isn't a truck in the field today that offers greater possibilities than the Commerce.

There isn't another truck built that has as many nationally advertised and favorably known standard units as the Commerce in its construction.

Everything is in its favor—demand, capacity, price, its reputation and stability of the manufacturer and money-making dealers back of it.

The Commerce Motor Car Company
10th Year Manufacturers of Motor Trucks
DETROIT, MICHIGAN

United States Motor Trucks

FLOATING POWER PLANT

As Good As The Name

Seven models

Five worm-drive

Two with Clark axles

1½ to 6 tons capacity

THE UNITED STATES MOTOR TRUCK CO.
Incorporated
Cincinnati Ohio

THREE B

BBB

BLOOD BROTHERS MODEL B

UNIVERSAL JOINTS

A Creation in Universal Joint Construction

Oil is force fed to Oversize Bearings by centrifugal action in every Model B Universal Joint. Transmission oil *thoroughly* and *conveniently* lubricates this entire joint through a single opening, insuring positive action and durability.

One piece drop forged yokes give the Model B a *Brute Strength* and maximum efficiency.

No companion flanges required and bushings are completely supported.

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Blood Bros. Machine Co.
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ALLEGAN, MICHIGAN

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¾-1 Ton 3½ Ton

Road Tractor *Trailers*

WATSON HAULAGE SYSTEMS

Watson Products Corporation
Main Office and Factory
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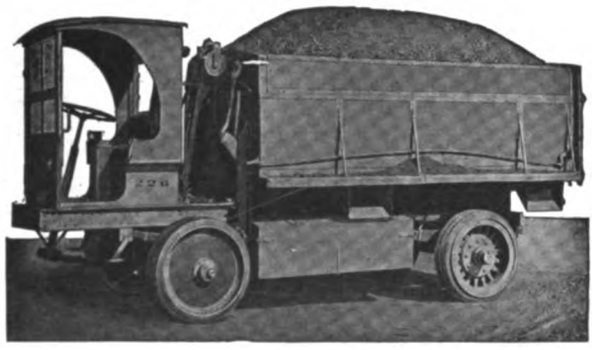
FOR giving maximum mileage and the greatest measure of protection to loaded trucks, Fisk Truck Tires are unsurpassed.

They save money for you.

FISK
TRUCK TIRES



Front or Four-Wheel Drive Trucks and Tractors

Conservation is the key to success. ***Couple-Gear*** is the method, saves men and horses. Derives its propelling force from water flowage. The ***best*** is the ***cheapest.***

Your inquiries are solicited

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Get the Particulars about this Particular Trailer

Write right away for illustrated details of the E & W TRAILER, the reputation-making trailer, the non-swaying, non-shaking, RADIUS ROD, true track TRAILER. Get your inquiry in the mail now.

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SAFETY FIRST
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WHEN you see a "Jasco" Tank on a car you can recognize it at once as a **quality car.** That the manufacturer is buying the best that can be had—a tank which can't leak, a tank which "stands up" strongest where service is hardest. A tank that means lasting service, positive protection and greater fuel economy.

Made of seamless drawn steel, tested and proved—perfect in every detail of construction. Send for booklet and detailed information.

We are prepared to handle contracts for deep drawn steel work. Send specifications.

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Main Office, Philadelphia
New York Office, Hudson Terminal Building

"JASCO" SAFETY FIRST TANKS

For 10 years *Service* Motor Trucks have been *building business* for both dealer and owner.

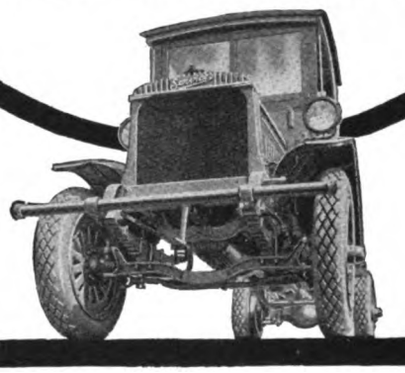
And *Service* Dealers have this advantage—*Service* Trucks are built in 80 different combinations of power, speed and capacity, one of which will meet the *exact load* and *road* requirements of *every* prospective purchaser.

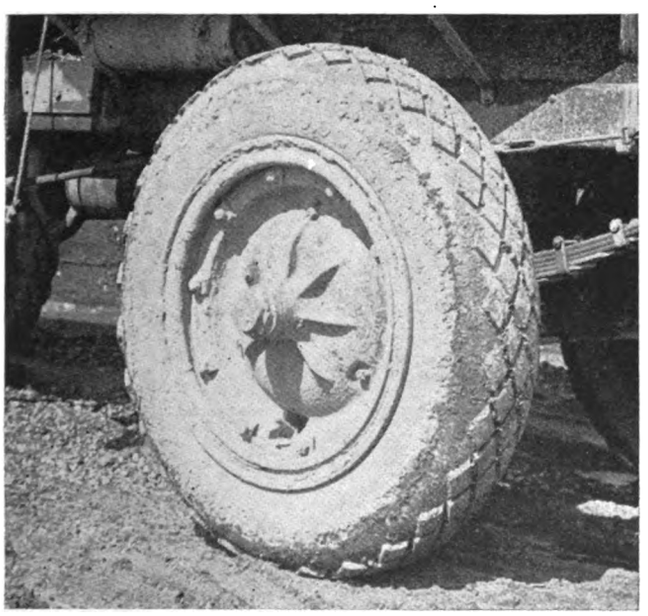
You will be interested in what the *Service* Dealer Franchise holds in store for *live* dealers.

Write today.

SERVICE MOTOR TRUCK CO., Wabash, Ind.

Service
MOTOR TRUCKS
Builders of Business





GOODYEAR
CORD TIRES

SAVE DRIVERS, LOADS, TRUCKS AND ROADS

A Grip that Never Slips
Applied in Two Minutes

With transportation tie-ups everywhere, shippers must get the full use from their trucks. Costly delays on the road must be eliminated.

There is a sure and inexpensive way to keep trucks operating on schedule in any kind of weather and over the worst roads. It is Giant Grip Traction Equipment for Motor Trucks.

Mud, soft sand, snow and ice can stall the most powerful trucks if efficient traction is not provided. But with Giant Grips mud-hole lay-ups and time out for bad roads can be ended.

Clamps are permanently attached to the wheels and chains kept in tool box until needed. At a bad stretch of road these cross-chains are quickly hooked on and the truck has absolute traction. Two minutes' time and his hands are all the driver needs. No tools—no jacking up the wheels.

A Style for Every Type of Wheel and Tire

The Giant Grip line includes a style for any truck, no matter what wheel and tire equipment is used. Yet the dealer has but few models to carry in stock. Broadcast advertising makes quick turn-over sure. Write to us for particulars.

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Established 1863 Dept. 25 Oshkosh, Wisconsin
Formerly Named Challoner Company

New York Distributors:
SHULTIS AUTOMOTIVE CORPORATION, 19-22 W. 61st Street, New York City

Giant Grip
Traction Equipment for Motor Trucks

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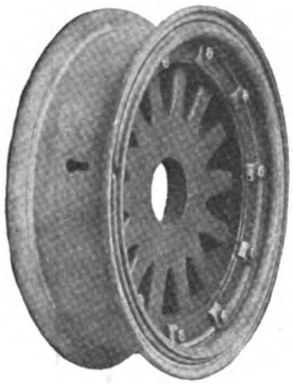
WHEELS AND RIMS

FOR PNEUMATIC TRUCK TIRES



We furnish promptly, any sizes from 32 x 4½ inch to 42 x 9 inch and to fit the hubs of ANY MAKE OF TRUCK.

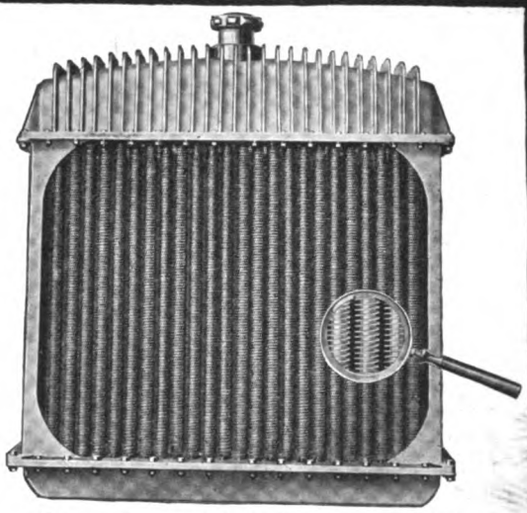
Send for Price List D

LUVERNE MOTOR TRUCK CO.

LUVERNE, MINN.

Manufacturers of Truck Parts

RADIATOR INSURANCE



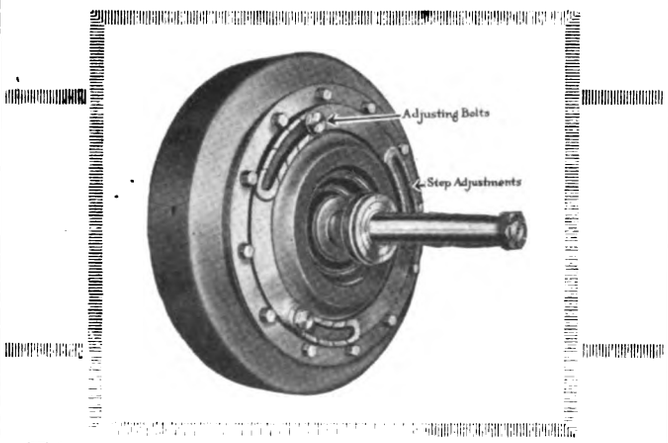
GUARANTEED FOR THE LIFE OF THE TRUCK

These Seamless Helical Tube Cooling Sections are perpetual insurance against radiator trouble.

Write for complete information.

Rome-Turney Radiator Co.

Rome, New York, U. S. A.



The

"M & E" Dry Disc Clutch

(Patent Pending)

—is a sturdy unit that transmits the full power from the motor to the rear axle without the many disadvantages usually found in other clutches.

Let us know your requirements, and we will gladly demonstrate its adaptability to your layout.

MERCHANT & EVANS Co

NEW YORK PHILADELPHIA WHEELING
BALTIMORE CLEVELAND
LANCASTER, PA. DETROIT
ATLANTA CHICAGO
KANSAS CITY

The K. & L.

EFFICIENT and DURABLE

RADIATORS

The ACE of Radiators

INVESTIGATE

Send for samples and report on preliminary tests—then send us your B-P's and engine data and let us prescribe for your particular wants and give you our quotations.

We manufacture all sizes and shapes of cores for all purposes. We also build all styles of complete radiators.

THE K. & L. RADIATOR MFG. CO.

618-24 Turner Street, ALLENTOWN, PA.

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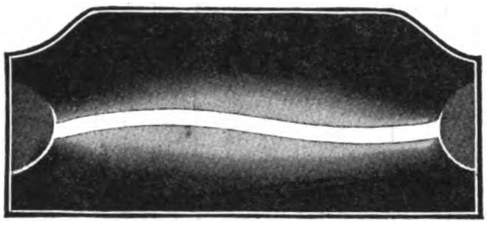
The LAW of LUBRICATION

FOR EVERY MACHINE, of EVERY DEGREE of WEAR there is A SCIENTIFIC SINCLAIR OIL to SUIT its SPEED AND CONSERVE its POWER.

Sinclair Refining Co. Chicago

SINCLAIR OILS



the white hot "juice" you want, when you want it—and every time!

Absolutely Dependable — Lives as long as the Engine

EISEMANN MAG

THE EISEMANN MAGNETO CORP.
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Detroit BROOKLYN, N. Y. Chicago

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THE Sanford MOTOR TRUCK

2½, 3½ 5 TONS

Sanford

WORM DRIVE MOTOR TRUCKS

Dependability in the Sanford is the result of long experience knowing truck users' needs, the use of quality material and workmanship, and the application of right manufacturing methods.

Experience counts with us as it does with users.

Sanford Motor Truck Co., Syracuse, N. Y.

PNEUMATIC TRUCK TIRES

Write if Interested!

Splendid selection of factory-blemished and surplus stocks from the better Akron factories

The Rubber City Clearing House Co.
AKRON, OHIO.

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WEST
Cast Steel Wheels

Hubs Cast Integral
Any Make of Axle
Any Make of Tire

Specify West Cast Steel Wheels On Your Next Truck Order

THE WEST STEEL CASTING CO.
Cleveland, Ohio

New York	Chicago	Detroit
1790 Broadway		205 Kresge Bldg.

"Watch the WEST STEEL WHEELS Go 'Round"

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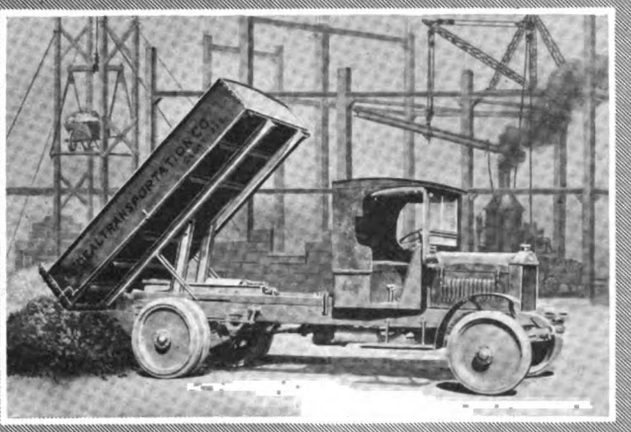

In Service—

The day after day positive performance, never-failing action, absolutely dependable ability of

HORIZONTAL HYDRAULIC

DUMPING UNITS

to deposit any load exactly where it is wanted—to save time and labor—to increase motor truck efficiency—are *facts* that have won the approval of most of America's prominent motor truck manufacturers.

Horizontal Hydraulic Hoist Co.
35 Twenty-fifth St., Milwaukee, Wisconsin
SALES AND SERVICE STATIONS
Chicago: 3755 Wentworth Ave.
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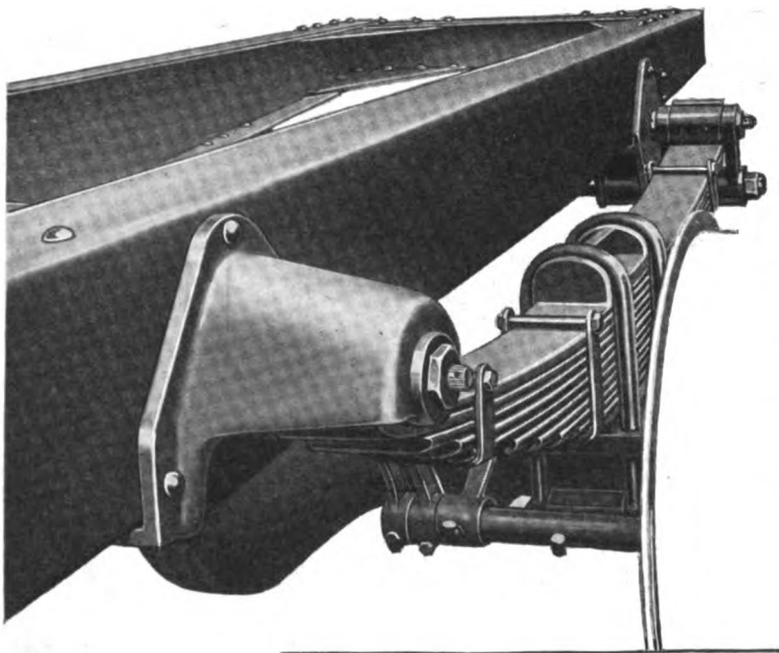
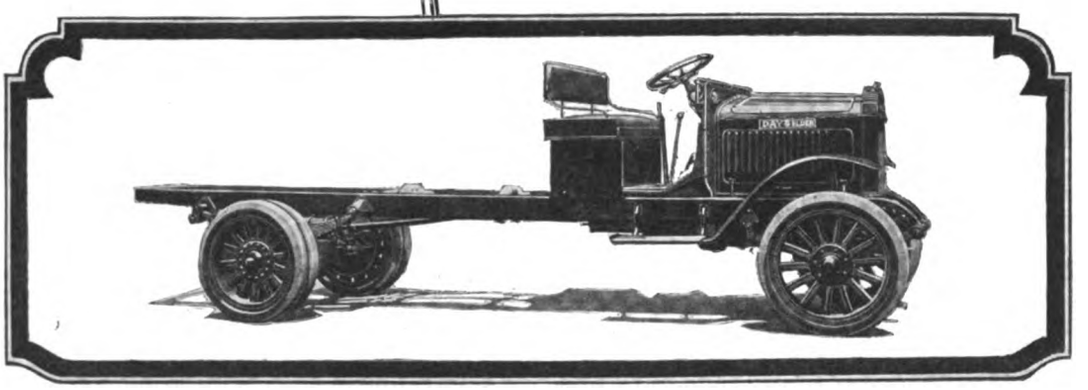


An Important Development in the Motor Truck Business—



MEMBER OF THE MOTOR TRUCK MANUFACTURERS ASSOCIATION

Model A
1-1½ tons
Capacity Including
Weight of Body
3500 Pounds

Model B
1½-2 tons
Capacity Including
Weight of Body
4500 Pounds

Model D
2-2½ tons
Capacity Including
Weight of Body
6000 Pounds

Model C
2½-3 tons
Capacity Including
Weight of Body
7000 Pounds

Model F
3½-4 tons
Capacity Including
Weight of Body
9000 Pounds

Model E
5-6 tons
Capacity Including
Weight of Body
14,000 Pounds

The biggest and most important development in the motor truck business is the rapidity with which "truck wise" men are increasing in numbers.

More and more, business men are learning how to apply the acid test of comparative values to several motor trucks and select the one that, because of its built-in quality, reputation and price, appeals to keen business judgment as the best investment.

To the dealer handling a truck of sound value, this development means greater success in a sales way than ever before.

DAY-ELDER dealers are concrete examples of this.

They are enjoying easier sales and more sales, because it is naturally less difficult than ever to sell motor trucks to a "motor wise" public, when those trucks are the utmost in value.

DAY-ELDER dealers represent a truck of established reputation throughout the world—a truck priced several hundred dollars under any other worm-drive trucks of similar construction and carrying capacity.

Introduced modestly to the public, DAY-ELDER value and performance soon earned for the DAY-ELDER Truck the title of "The Dominant Truck Value."

And because it is the dominant truck value, the dealers who handle it are enjoying an ever increasing measure of prestige and profits.

DAY-ELDER WORM DRIVE MOTOR TRUCKS

DAY-ELDER MOTORS CORPORATION

Factory:
Newark, N. J., U. S. A.

DAY-ELDER

Worm-Drive Motor Trucks

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Roller Type

"WHITNEY" CHAINS

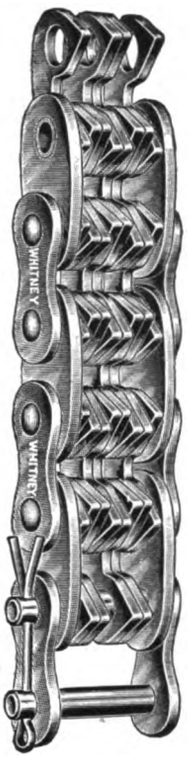
Equip Your Motor Trucks and Tractors with "Whitney" Chains

Now that the motor truck is handling so much of the freight that was formerly cared for by the railroads, it must run on a schedule almost as exacting as that of the railroad train itself. This emphasizes the necessity of selecting a chain which can be relied on under all conditions of speed, road and weather.

THE WHITNEY MFG. CO.

HARTFORD, CONN.

Chains **Keys and Cutters** **Hand Milling Machines**



Silent Type

"The Spring is the Thing"

MATHER SPRINGS

Scientifically Heat-Treated

Unequalled For

Lightness, Flexibility and Endurance

Genuine made only by

THE MATHER SPRING COMPANY

Toledo, Ohio.

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Stewart MOTOR TRUCKS

Eight Years of Rapid Growth Prove Stewart Quality and Economy

THIS THE IDEAL From the start, Stewart designers decided to build only quality trucks; to build them at quantity prices. Trucks from the ground up—not an adapted passenger car part in them; built for work; built to last and pile up profits for owners; hundreds of useless parts and hundreds of pounds of dead weight eliminated; strong, sturdy, hardworking assets to any man or business.

AND THIS THE ACCOMPLISHMENT In only eight years Stewart has become one of the world leaders. It has fought the daily battle of business for owners, and won out—because it is a stronger truck, simpler to operate, more economical on gasoline, oil, tire and repair costs. Starting with one on trial, Stewart fleets have grown rapidly—one, two, four, and more—all working and earning; spreading the Stewart reputation for quality and economy. Factory output has been more than doubled this year. Stewarts are in use in 800 American cities, on hundreds of farms, and in 38 foreign countries.

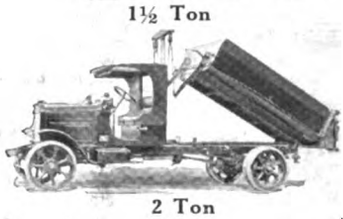
Stewart Trucks have won—By costing less to run.

STEWART MOTOR CORPORATION
BUFFALO, N. Y.

1500 lb.

2000 lb.

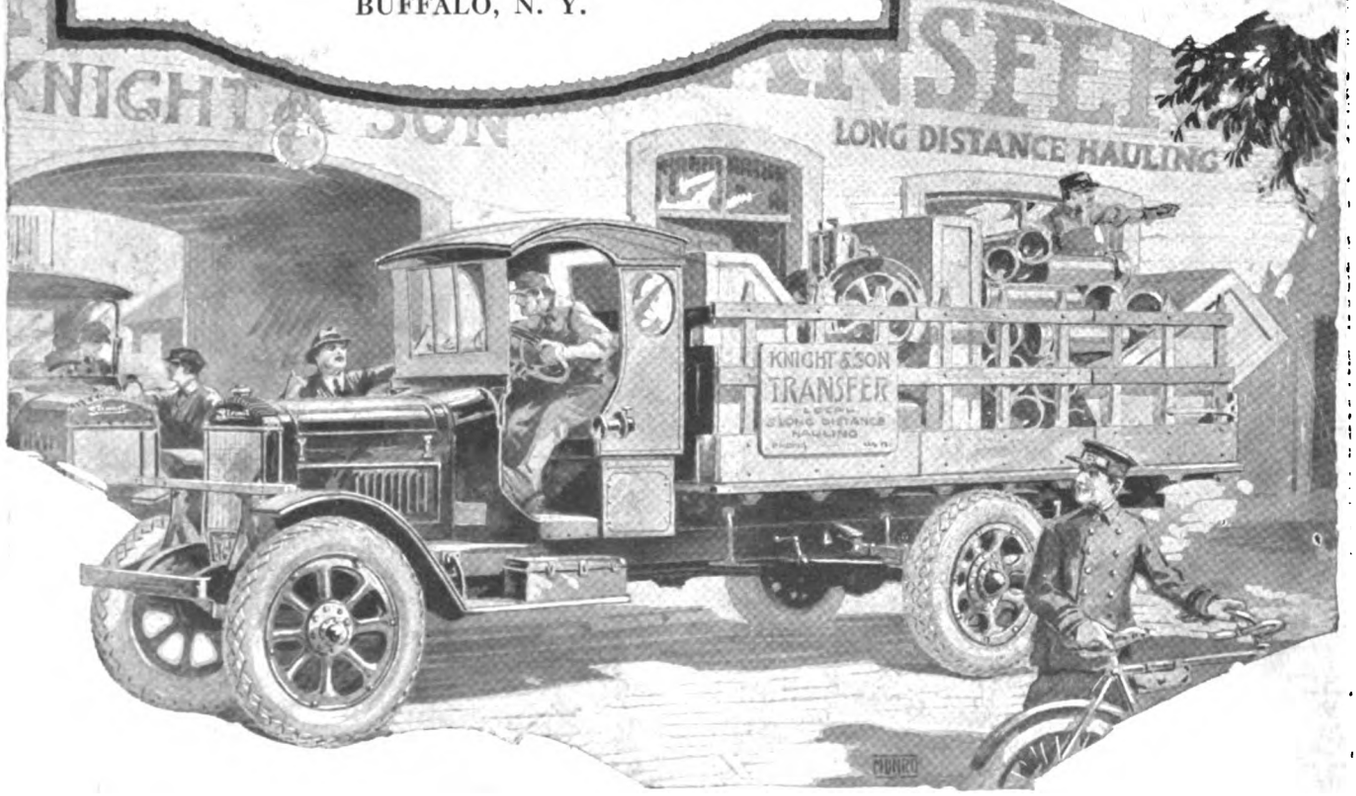
1½ Ton



2 Ton

2½ Ton

3½ ton shown below



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62

POWER WAGON

Number 190 CHICAGO, SEPTEMBER, 1920 Price 50 Cents

Some truck owners equip their trucks with Kelly Caterpillars because Caterpillars enable them to operate the trucks without chains.

Others put them on because they cushion the truck.

For whichever reason they are bought, the owner gets not only the particular feature or features that appealed to him, but mileage such as he cannot get from any other type of tire, pneumatic or solid.

KELLY-SPRINGFIELD TIRE CO.

GENERAL SALES DEPARTMENT

1710 Broadway, New York

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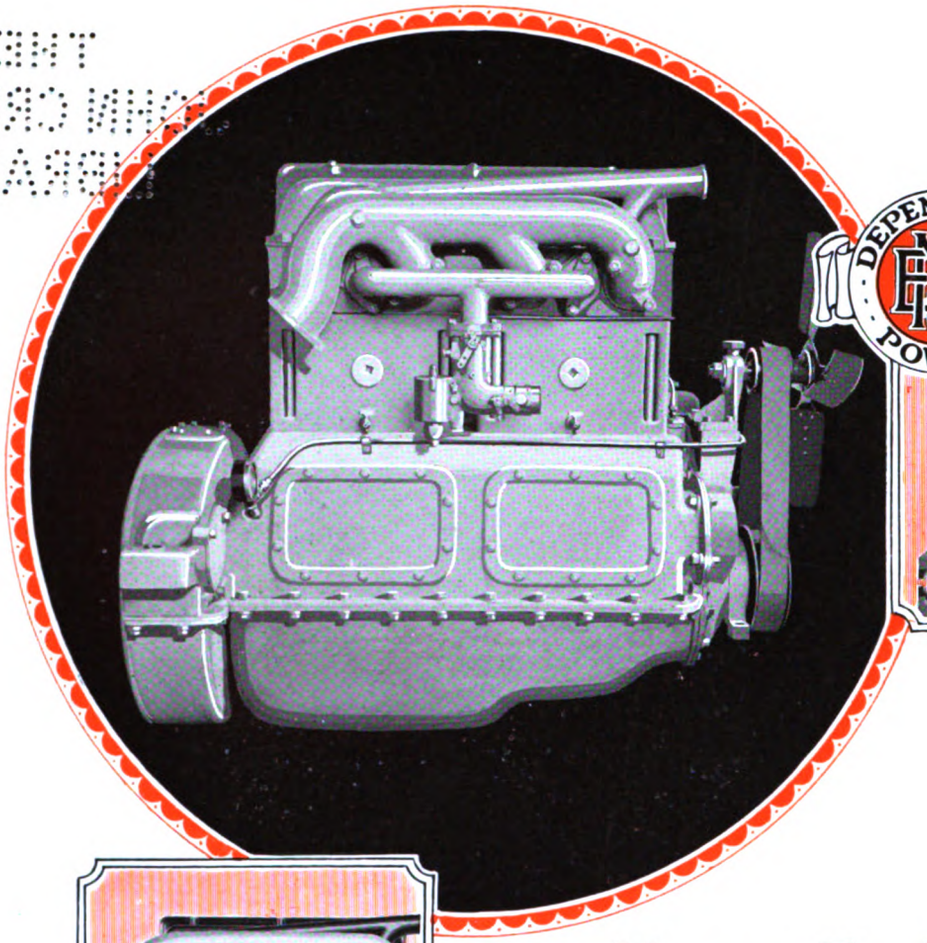
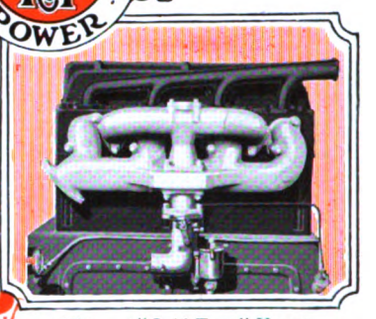
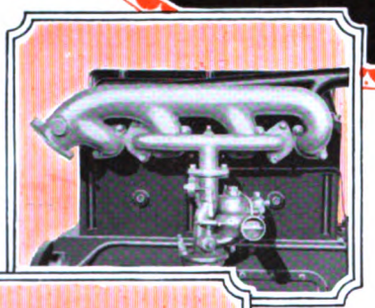
THE
JOHN CRERAR
LIBRARY

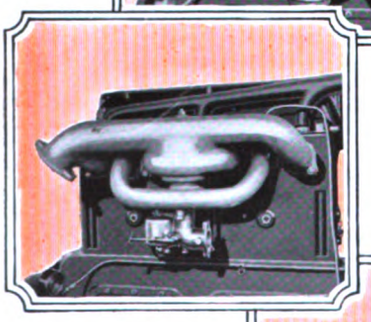




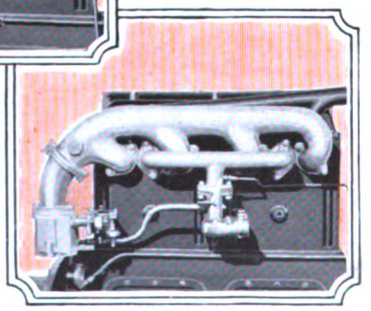
Midwest "Grid Type" Heavy Fuel System.



(Above)—Ensign Kerosene System installed on Midwest Engine.



(Left)—Installation of Stewart-Warner Kerosene System on Midwest Engine.



(Right)—The Holly Kerosene System attached to Midwest Engine.

Heavy Fuel Efficiency

THIS Midwest Truck and Tractor Engine shows superior performance both on "heavy fuels" and present day gasoline. And its unusual performance is not dependent on any one type of heavy fuel system. While best results are obtained, we believe, from our own type of apparatus, we recommend, after repeated tests, such heavy fuel systems as the "Holly", "Ensign" and "Stewart-Warner"—all of which can be readily attached to the Midwest Engine.

In comparison with other truck and tractor engines, the horse power this engine develops on heavy fuels is as much greater proportionately as its remarkable comparative showing on gasoline.

This superiority of performance is due to the exclusive Midwest design. For example, a much higher compression is maintained in this engine when using heavy fuels than has heretofore been possible. A cooling system wherein the flow of water is evenly and effectively controlled—eliminates all hot spots. Valves of large area, with excellent lift, insure a quick entrance of fuel and complete and quick scavenging of burnt gases.

There are many other reasons why greater efficiency is obtained from heavy fuels with this engine. We solicit the opportunity of proving to you that the Midwest truck and tractor engine does give better performance on heavy fuels as well as present day gasoline.

MIDWEST ENGINE COMPANY

INDIANAPOLIS, U. S. A.

MIDWEST

TRUCK and TRACTOR ENGINE

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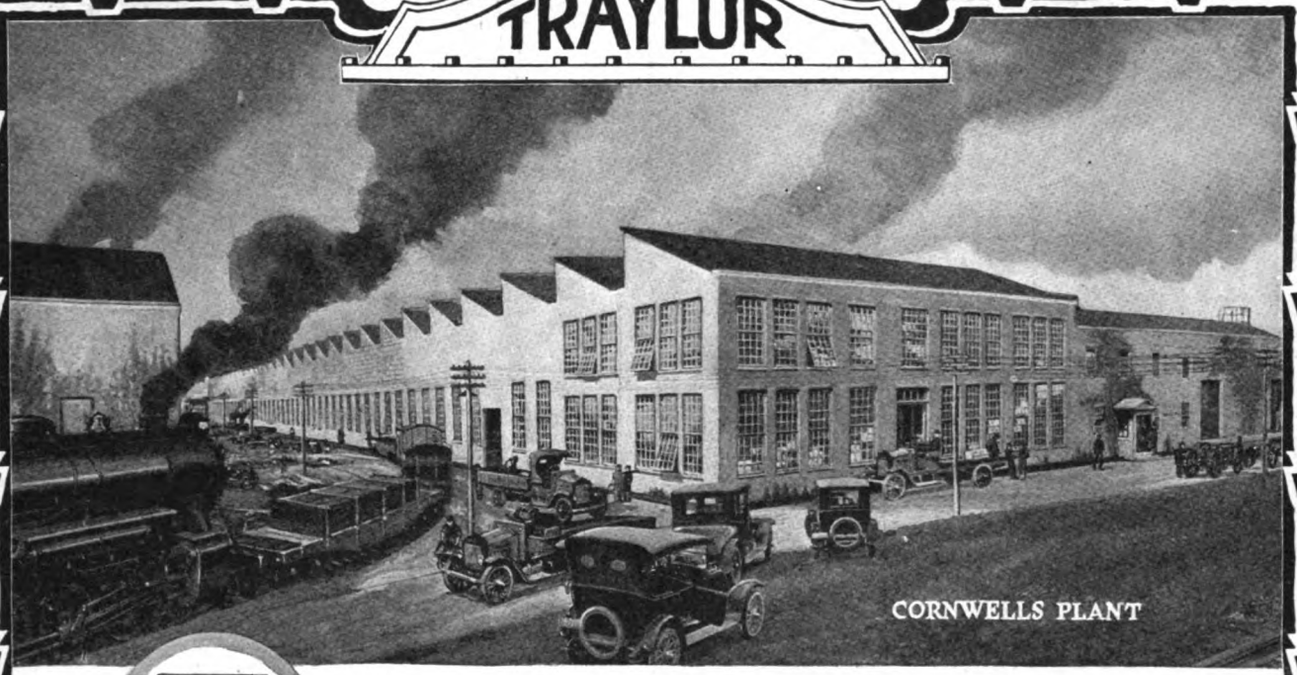
TRAYLOR



CORNWELLS PLANT

'Products of an Old Organization"

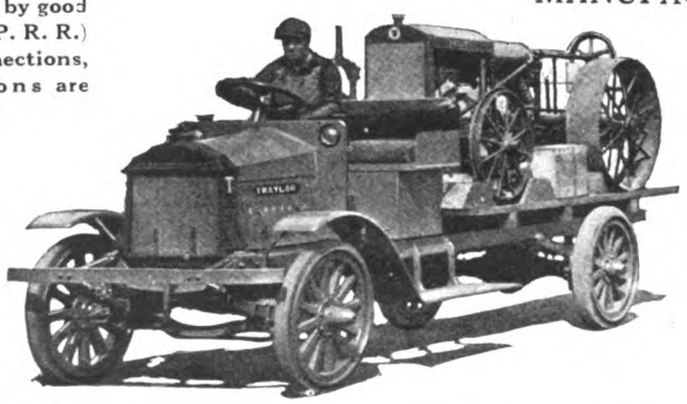
With a production of 10,000 motor trucks and 20,000 farm tractors the Traylor plants mother a community of modern factory-built homes for employees that includes club quarters and a moving picture theatre. On the Delaware River, favored by good railroad (main line P. R. R.) and highway connections, shipping conditions are excellent.

Great modern plants covering over 114 acres are in full production.

The dominant influence of Traylor resources—both financial and natural—assures continuous, uninterrupted production and immediate deliveries.

TRAYLOR ENGINEERING AND MANUFACTURING CO.

Allentown and Cornwells, Pa.



Some territory open to responsible dealers

Allentown *New York* *Chicago* *Pittsburgh* *Los Angeles* *Spokane*

MOTOR TRUCKS & FARM TRACTORS

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"NORMA"
PRECISION
BALL BEARINGS
(PATENTED)

QUALITY seeks quality. Which explains why "NORMA" Bearings are standard in all magnetos and lighting generators of the better class—and also why "NORMA" equipped magnetos and lighting generators are standard equipment on all cars, trucks, tractors and power boats built to a quality standard and sold on a quality basis.

See that your electrical apparatus is "NORMA" equipped.

THE NORMA COMPANY OF AMERICA
Anable Avenue
Long Island City
New York

Ball, Roller, Thrust and Combination Bearings

POWER WAGON

An exponent of the most enlightened thought and practice of the motor truck industry.

Published monthly by
THE POWER WAGON PUBLISHING COMPANY
544 Lake Shore Drive, Chicago, U. S. A.

Entered as second-class matter December 2, 1907, at the post office at Chicago, Illinois, under the Act of Congress of March 3, 1879.

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THE POWER WAGON PUBLISHING COMPANY

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STANLEY A. PHILLIPS, *Vice-President and Editor*

Executive and Editorial Offices, 544 Lake Shore Drive, Chicago.

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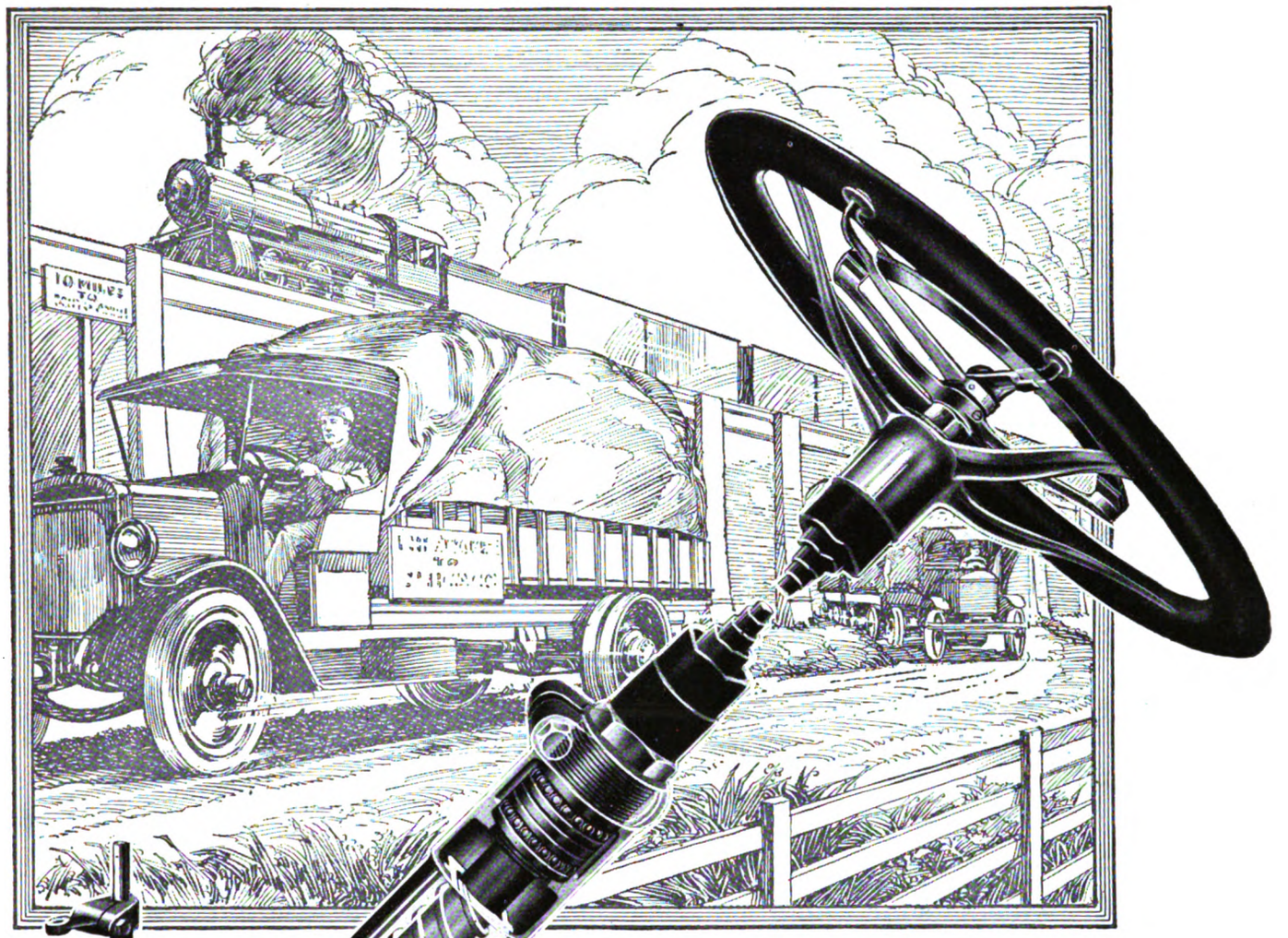

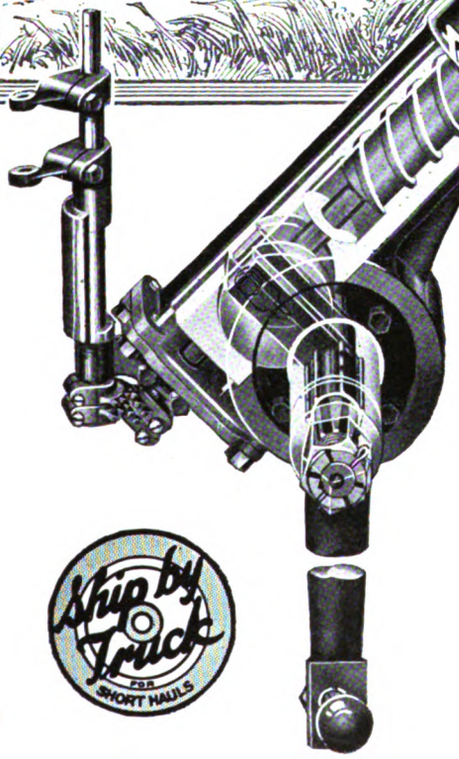

Ship by Truck FOR SHORT HAULS

Better Transportation
—The Nation's Vital Need

With rail facilities taxed to the breaking point, our biggest problem today is to relieve this strain and help transportation keep pace with industry and agriculture. Unquestionably the solution is the motor truck. Its worth has already been established, and the necessity for its use on a larger scale is becoming more and more apparent every day.

Ross Steering Gears have played an important part in making the motor truck a more efficient and reliable means of transportation. The easy steering, safety and reliability, which are guaranteed by the exclusive screw and nut design, have made Ross Steering Gears standard equipment on 418 different motor truck models from 165 different manufacturers.

Write for any further information desired

ROSS GEAR & TOOL COMPANY
780 Heath Street, Lafayette, Ind., U. S. A.

ROSS STEERING GEARS

THE STEERING GEARS THAT PREDOMINATE ON MOTOR TRUCKS

Please mention "Power Wagon" when writing to advertisers.

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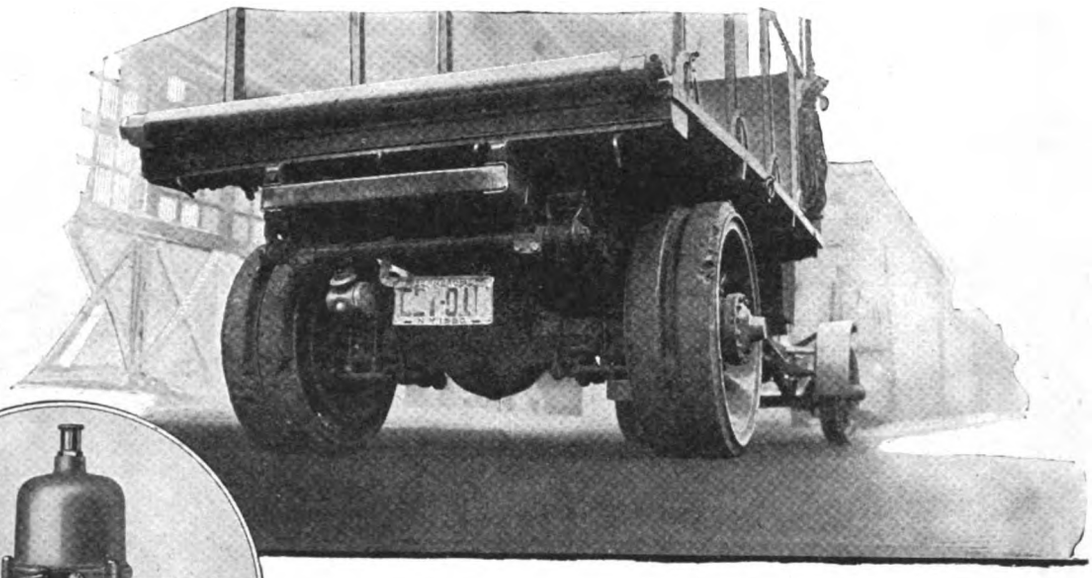

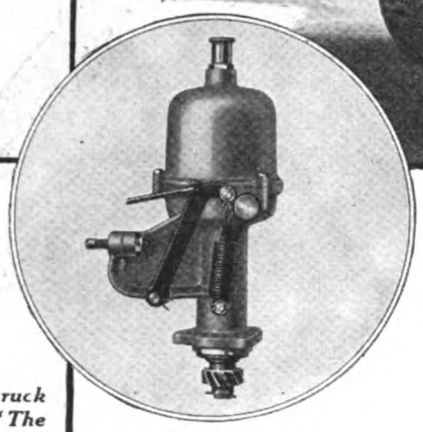

No other truck has it "The Driver under the Hood."

Saving the "Guts" of a Motor Truck

WHEN a driver races his motor and lets in the clutch with a bang, what happens to the truck? The whole strain is put *suddenly* on the driving mechanism, with the result that the vital parts wear out before their time.

With the Clydesdale Controller this can't happen. This device idles the motor when the clutch is out, and picks up the load *gradually* until the truck is under way. It positively controls the motor speed, saving gas, oil and tires. It prevents the jerks and strains that cause rapid depreciation. It saves adjustments and replacements so that the truck does its work better and lasts longer.

Every owner, every driver speaks well of the Clydesdale, and in the last analysis, that is the real test of a truck's value. The investment in any truck should be measured by *continuous performance*, and the Clydesdale has a reputation for keeping itself out of the shop.

THE CLYDESDALE MOTOR TRUCK COMPANY
CLYDE, OHIO

CLYDESDALE MOTOR TRUCKS

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The Tread-mill—used for centuries in the irrigation of rice fields in the Orient

The untold blessings and luxuries of mechanically generated Power were attained by Man only after countless centuries in which Energy came solely from the straining effort of human muscles. It is little wonder, therefore, that men of today are moved instinctively to value and admire the smooth-running perfection of modern automotive power. ¶ It is little wonder, too, that the Continental organization derives unusual satisfaction from the value that the automotive world attaches to its product — little wonder that it is united more firmly than ever in its resolve to let nothing interfere with the maintenance of high quality standards in the motor that is marketed under the Continental Red Seal.

CONTINENTAL MOTORS CORPORATION

Offices: Detroit, U. S. A. **Factories: Detroit and Muskegon**

Largest Exclusive Motor Manufacturers in the World

Continental Motors

STANDARD POWER FOR TRUCKS, AUTOMOBILES AND TRACTORS

Please mention "Power Wagon" when writing to advertisers.

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WHEREVER you are located you can get these dependable Johns-Manville products, for trucks and commercial cars. Read about them.

Johns-Manville Non-Burn Asbestos Brake Lining

Non-Burn is the representative of Johns-Manville Asbestos to the owners of Trucks and Commercial Cars. That's one reason why it is so dependable. Brakes last longer with Johns-Manville Asbestos Brake Lining.

The Jones Recorder

On a chart of sensitized paper, which cannot be tampered with, this instrument records a complete, accurate and permanent history of the performance of your cars, every minute of the day. In addition, the Jones Recorder shows the total mileage up to 9,999 with trip mileage up to 99.9.

Tell truck owners to put this instrument on their cars and learn the truth.

JOHNS-MANVILLE SERVICE COVERS THE CONTINENT

Through—

Asbestos

and its allied products

JOHNS-MANVILLE
Serves in Conservation

Heat Insulations, High Temperature Cements, Asbestos Roofings, Packings, Brake Linings, Fire Prevention Products

JOHNS—

AUTOMOTIVE

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Johns-Manville "Noark" Automobile Lighting Fuses

You can back these fuses as absolute safe-guards for your customers' batteries. The name "Noark" means split-second accuracy.

Johns-Manville Automotive Mogul Packing

For water pumps and similar places, where a small twisted or braided packing is required, Mogul Packing makes a tight job. Besides stopping the leaks, it is a natural lubricant. Keep Mogul Packing on hand, there are lots of uses for it.

Johns-Manville Hub Odometer

There is an increasing demand for an accurate but inexpensive mileage recorder that can be attached to business cars and trucks. This instrument will enable you to meet the demand — at an excellent profit.

Johns-Manville Automobile Tape

Here's a tape so good that we guarantee it. Johns-Manville Tape will make satisfied customers for you.

Johns-Manville Non-Burn Clutch Facing

When you install Non-Burn clutch facings, you get the same quality, wear-resistance and gripping power that have made Johns-Manville Non-Burn Brake Lining famous.

JOHNS-MANVILLE CO.
Madison Avenue at 41st Street, New York City
10 Factories—Branches in 64 Large Cities
For Canada:
CANADIAN JOHNS-MANVILLE CO., Ltd., Toronto

MANVILLE

EQUIPMENT

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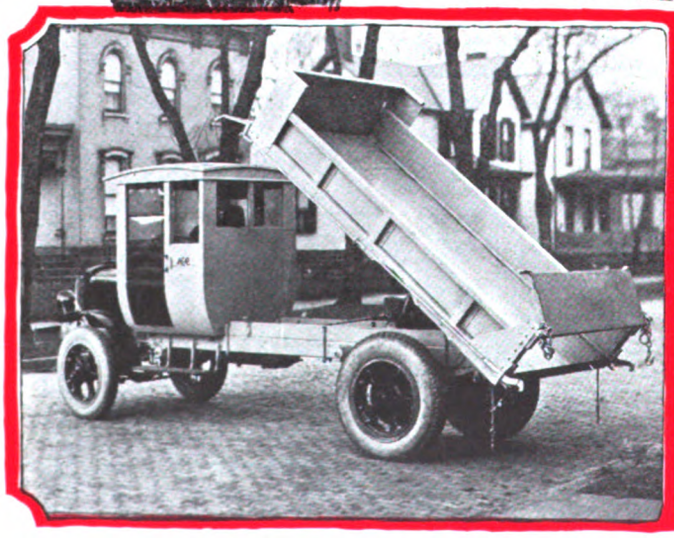
ACE
MOTOR TRUCKS



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versatile

Ace versatility extends even to its selling plan which recognizes the Dealer as a partner; helps him; protects him; pays him well. A brand new plan which fits the Truck business as it is best done today.

Ace versatility recognizes obstacles of service through overcoming them.

There isn't a load or a road or a traffic condition that does not yield readily to this Truck's ability to play any Transportation part.

Versatility is engineered in—it comes from wonderful flexibility—perfect balance—direct driving power—straightness of frame, drive shaft and control rods to insure positive action—ease of control—completeness of all essentials which keep a Truck moving in spite of anything.

Completeness Assures Versatility Plus

A strong, rugged and perfectly equipped haulage unit ready for your job whatever it is—that's the Ace.

Consider the efficiency and economy of a dependable Electric Self-Starter; the advantage, morning and night, of self-tracking electric headlights; the protection from all weathers of a good cab; the benefits of a governor which minimizes road strains through control of engine speed; the added durability of all parts from three full coats of paint.

Versatility is a matter of all 'round usefulness—look to the Ace for it.

Specifications

Modine Spirex Sectional Radiator
Timken-Detroit or Sheldon Front Axel
Buda Motor
Atwater-Kent Distributor
Merchant & Evans Multiple Dry Disc Clutch
Cotta Transmission
Cotta Control
Ross Steering Gear
Merchant & Evans Universal Joints
Timken-David Brown Worm Drive or Sheldon Rear Axel
Mather Springs
Parish & Bingham Frame
Dayton Steel Wheels (on 2½ ton model)
Schwarz Wooden Wheels (on 1½ ton model)
Firestone Solid Tires or Goodyear Pneumatic Tires

Extra Standard Equipment

All Weather Cab
Military Radiator Guard
Channel Steel Bumper
Westinghouse Self-Starter
Westinghouse Generator
Self-Tracking Electric Lights with Dimmers
Exide Battery
Klaxon Horn
Pierce Governor
Veeder Odometer
Fully Painted

Ace

The AMERICAN MOTOR TRUCK COMPANY
NEWARK OHIO.
Automotive Products Corporation

Export Department
Woolworth Building
New York City

Cable Address
"Autoprodco, N. Y."

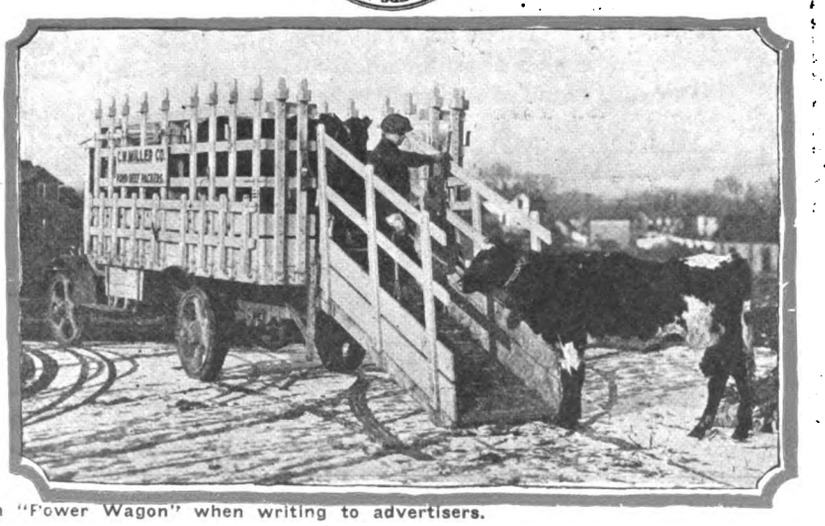
PRICES

1½ ton Chassis	$2750
1½ ton, completely equipped	3100
2½ ton Chassis, 156″ wheel base	3450
2½ ton Chassis, 144″ wheel base	3450
2½ ton Chassis, 180″ wheel base	3600
2½ ton Chassis, completely equipped 156″ and 144″ wheel base	3800
2½ ton Chassis, completely equipped, 180″ wheel base	3950
3 ton Chassis, Sheldon axles	3650
3 ton, completely equipped	4000

Furnished in 144″, 156″ and 180″ wheel base with additional charge of $150 for the longer wheel base.

Chassis only, for export

1½ ton	$2750
2½ ton	3450



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No Motor Truck or Motor Car is completely equipped that is not equipped with a Kellogg Engine-Driven Tire Pump

Kellogg Pumps
Reduce Tire Costs

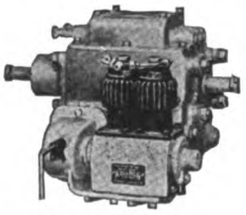
MOST pneumatic tire troubles are caused by rim-cutting or punctures, which usually are the result of under-inflation of tires. Unless tires are sufficiently inflated to resist the weight of the truck, they are apt to split at the sides. And soft tires offer the least resistance to sharp stones, tacks, glass and other penetrating objects commonly encountered on highways or city streets.

With a Kellogg Pump on the truck, tires can be kept inflated to the right degree of pressure at all times. Rim-cuts are eliminated and punctures are fewer. Tire costs are greatly reduced.

KELLOGG PUMPS are installed as standard equipment on practically all of the leading makes of motor trucks and motor cars manufactured today.

CAUTION

Make sure the Motor Truck or Motor Car you buy is equipped with a KELLOGG Engine-Driven TIRE PUMP



KELLOGG MANUFACTURING CO., Rochester, N. Y., U. S. A.

KELLOGG TIRE PUMPS

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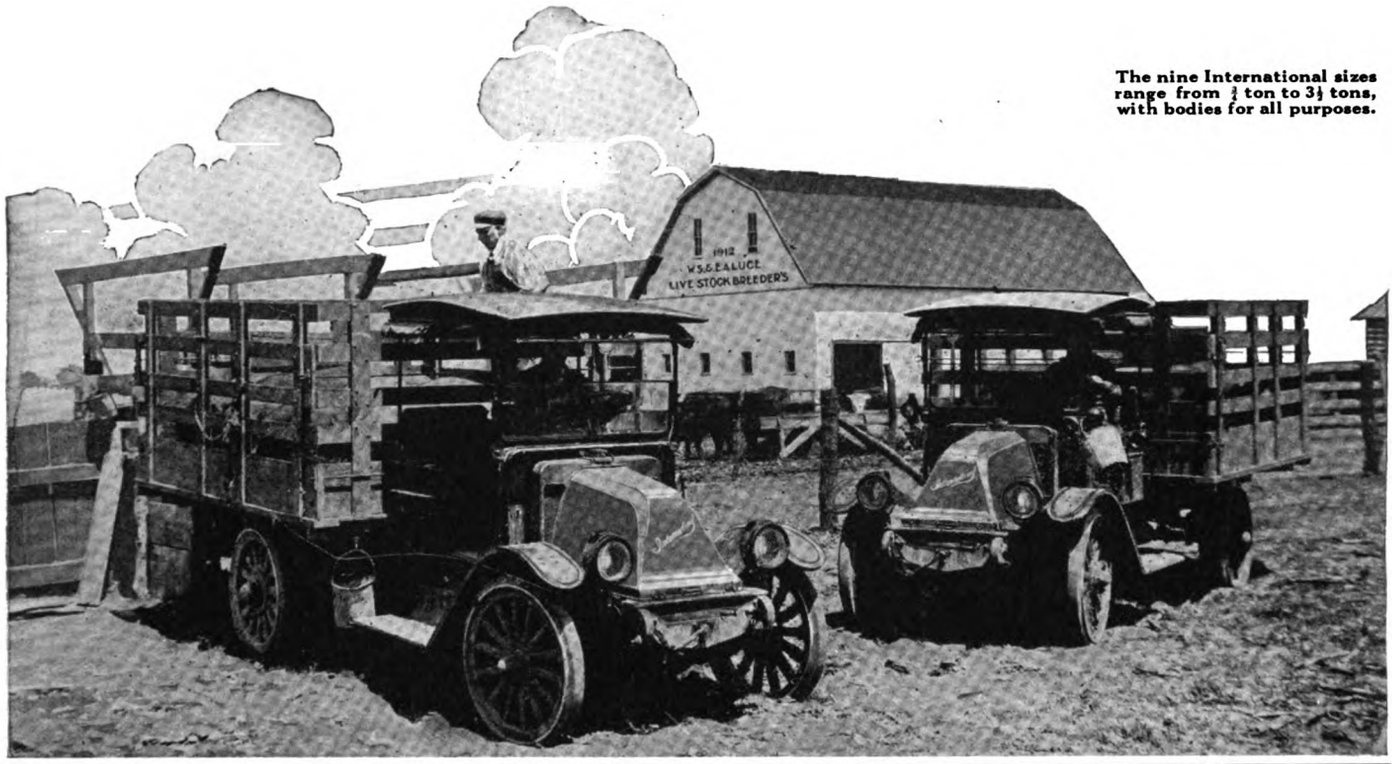

The nine International sizes range from ¾ ton to 3½ tons, with bodies for all purposes.

Conquer the Great Rural Motor Truck Market

Help the farmer
replace snail-pace hauling
with the International Motor Truck

—Trusted in town and country alike

GOVERNMENT statistics show that in 1918 alone, 350,000,000 tons of farm produce were transported locally to shipping centers in motor trucks. Each year these figures are increasing at a rapid rate. National official figures prove also that American farmers are the greatest users of motor trucks—among all industries. No progressive motor truck distributor can afford to overlook impressive *facts* like these.

International Motor Trucks sell with a minimum of effort. Like all International products, they have built an enviable reputation on four generations of satisfaction. Today Internationals are among the few leaders in total motor truck sales. Many thousands of them are at work on city pavements working in every line of industry, and thousands more are doing miscellaneous farm hauling.

International Motor Trucks are made in nine sizes, ranging from ¾ ton to 3½ tons, and bodies are available for all purposes. Dealers now selling these popular trucks and who are still able to make truck selling arrangements with this Company have before them an opportunity of special note. Write the address below for facts in regard to International service, dealer terms, territory, etc.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA INC.
CHICAGO U S A

NINETY-TWO BRANCH HOUSES IN THE UNITED STATES

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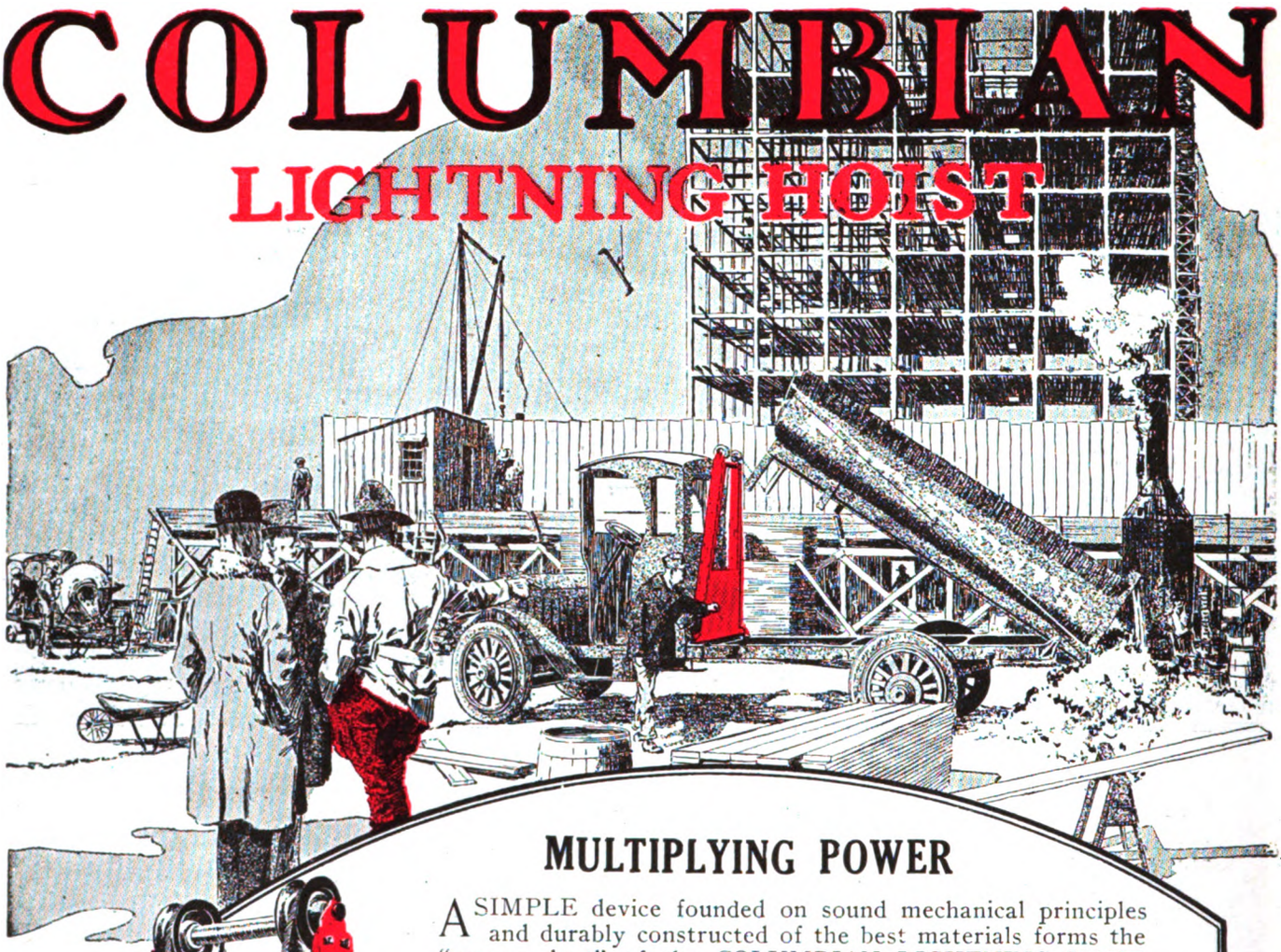
COLUMBIAN
LIGHTNING HOIST



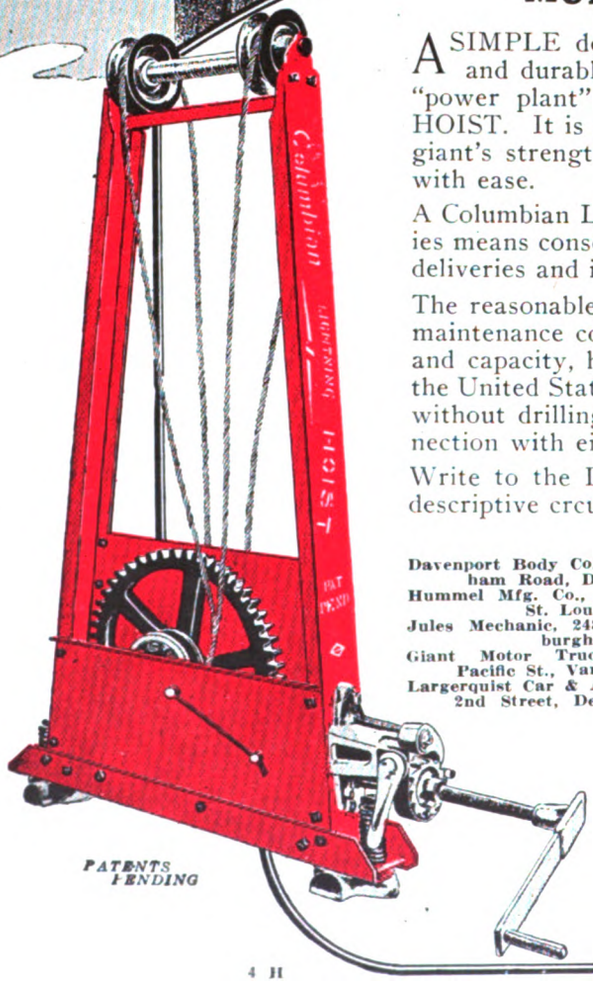
MULTIPLYING POWER

A SIMPLE device founded on sound mechanical principles and durably constructed of the best materials forms the "power plant" of the COLUMBIAN LIGHTNING HAND HOIST. It is this device which gives the Columbian Hoist a giant's strength, and enables one man to dump a 5-ton load with ease.

A Columbian Lightning Hand Hoist on your truck dump bodies means conservation of high-priced labor, more efficiency in deliveries and increased profits for you.

The reasonable first cost, and almost complete elimination of maintenance costs, together with its power, speed, durability and capacity, have made it the most popular Hand Hoist in the United States today. It will fit any chassis and is mounted without drilling holes in the frame, and can be used in connection with either a metal or wooden dump body.

Write to the Distributor nearest to you or to us direct for descriptive circular No. 89 and further details.



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Davenport Body Co., 1509-33 Rockingham Road, Davenport, Ia.
Hummel Mfg. Co., 3008 La Salle St., St. Louis, Mo.
Jules Mechanic, 248 Croft St., Pittsburgh, Pa.
Giant Motor Truck Co., Granville Pacific St., Vancouver, B. C.
Largerquist Car & Auto Co., 514 West 2nd Street, Des Moines, Ia.
S. S. Albright, 13th & U. Sts., Sacramento, Cal.
Beard & Co., 418 Keller Bldg., Louisville, Ky.
Blackwell Motor Co., Cor. 3rd & Post, Spokane, Wash.
Landes & Co., 2nd, West & South Temple, Salt Lake, Utah
Jacob H. Press & Sons, 300 Halsted Street, Chicago, Ill.

COLUMBIAN STEEL TANK COMPANY

"Tanks for the World" *Established 1894*

1519-1625 W. 12th St., Kansas City, Mo.

4 H

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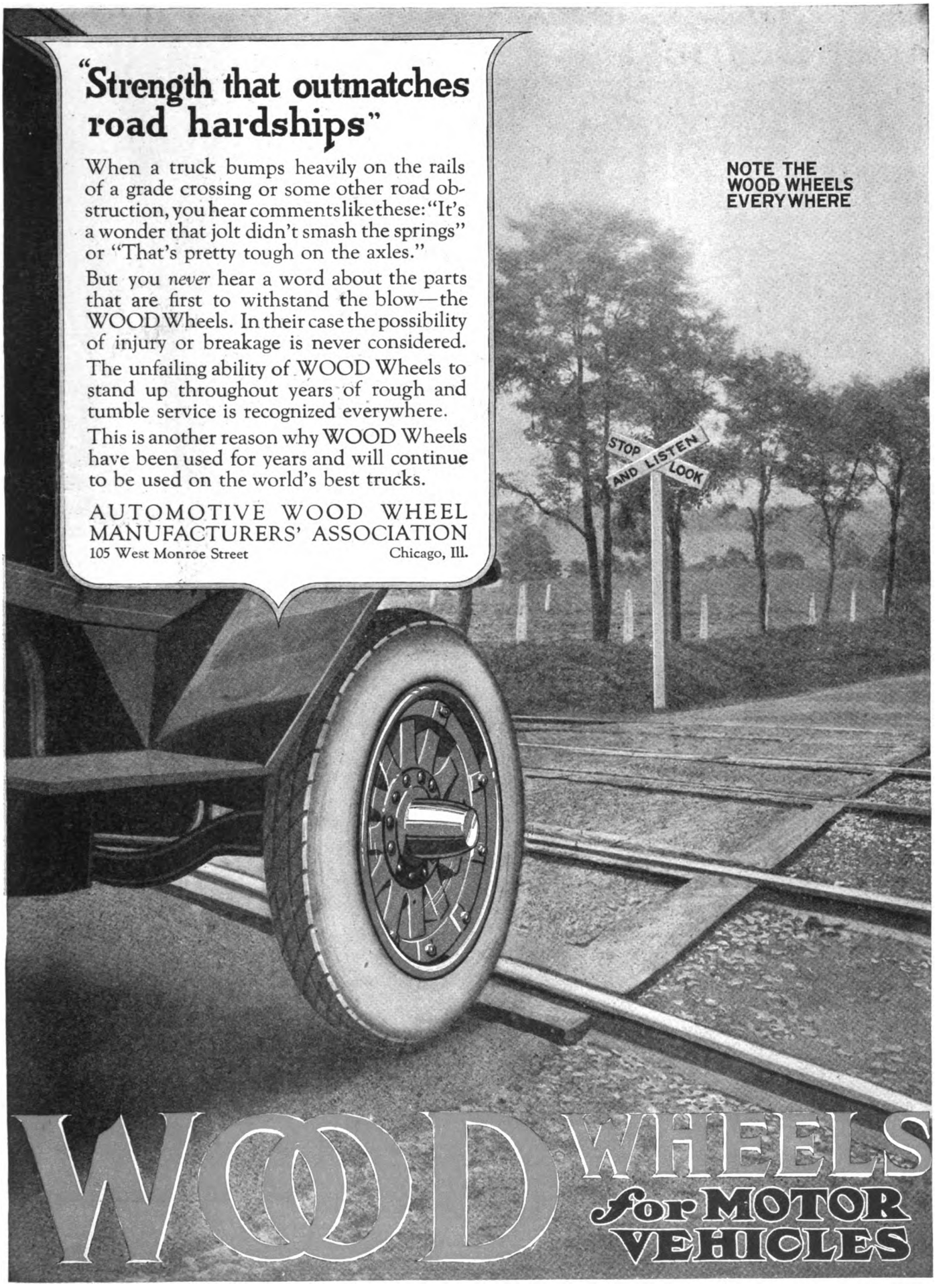
"Strength that outmatches road hardships"
When a truck bumps heavily on the rails of a grade crossing or some other road obstruction, you hear comments like these: "It's a wonder that jolt didn't smash the springs" or "That's pretty tough on the axles."
But you *never* hear a word about the parts that are first to withstand the blow—the WOOD Wheels. In their case the possibility of injury or breakage is never considered.
The unfailing ability of WOOD Wheels to stand up throughout years of rough and tumble service is recognized everywhere.
This is another reason why WOOD Wheels have been used for years and will continue to be used on the world's best trucks.
AUTOMOTIVE WOOD WHEEL MANUFACTURERS' ASSOCIATION
105 West Monroe Street Chicago, Ill.
NOTE THE WOOD WHEELS EVERYWHERE
STOP AND LISTEN LOOK
WOOD WHEELS for MOTOR VEHICLES

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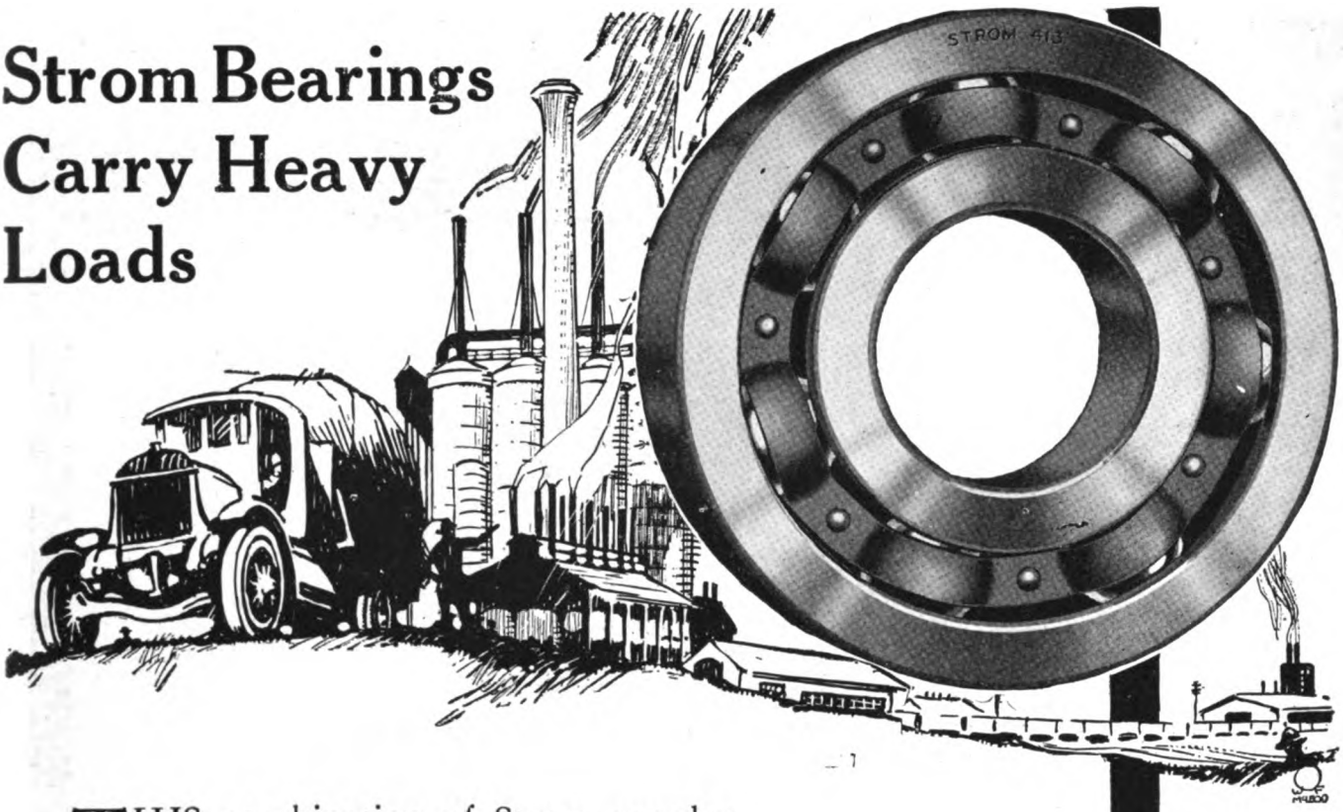
Strom Bearings Carry Heavy Loads



THIS combination of Strom angular contact and radial bearings shows one method of carrying the heavy loads in motor truck worm gears.

Two large angular contact bearings at one end of the worm shaft take care of the heavy thrust loads in either direction.

On the worm gear the angular contact bearings take the thrust loads. The radial bearing acts as a guide.

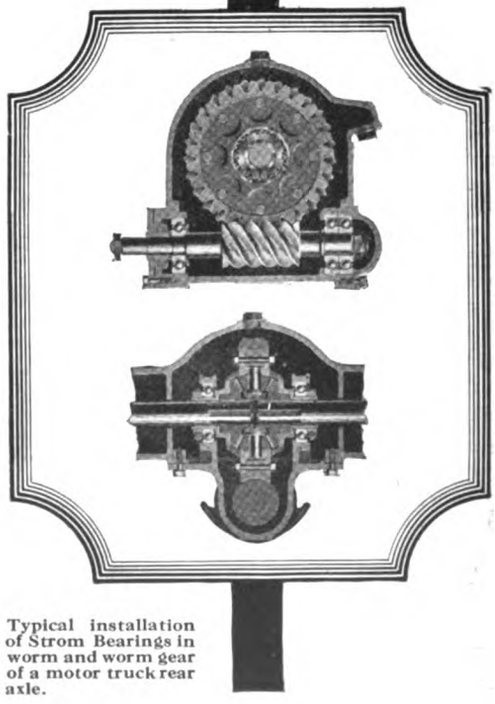
The high quality of Strom bearings insures maximum performance under all conditions.

Strom Engineers will help choose the mounting best suited to solve your bearing problem.

U. S. BALL BEARING MFG. CO.
(Conrad Patent Licensee)

4535 Palmer Street Chicago, Illinois

Strom BEARINGS



Typical installation of Strom Bearings in worm and worm gear of a motor truck rear axle.

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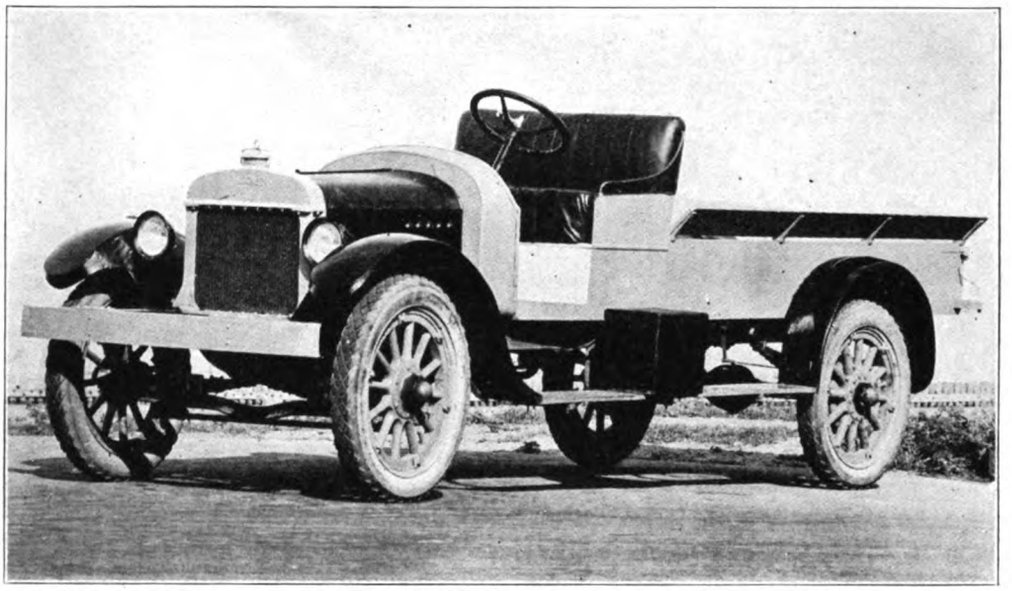
WINTHER MOTOR TRUCKS KENOSHA, WIS.

Announcing—



"The Winther Delivery Special"

Built to meet the demand for a sturdy speed-truck, the "Winther Delivery Special" is well named.

It is a WINTHER first of all, like its heavy duty brothers—a rugged, powerful little hustler that can handle its ¼-1 ton loads with the utmost ease.

Every unit of its construction has been selected with the idea of long service. The frame is of 5″ hot rolled channel; the springs are the best alloy steel; the motor, big and powerful.

The "Delivery Special", in fact, can make 40 miles per hour on the open road, with full capacity load, and do so at the rate of 16 miles per gallon of gasoline.

For the grocer, the baker, the farmer, the laundry company, and express service—for all light hauling, indeed—the "Winther Delivery Special" is the *one* truck. It answers every requirement of speed, strength, and pulling power. It is economical in first cost and in upkeep. Even its appearance bespeaks capability.

Dealers will find a tremendous market for such a truck as this—a truck that they can move easily and profitably.

The Winther Company has a most interesting proposition for dealers in open territory. Why not write or wire today for complete information?

Regular equipment on the "Delivery Special" includes electric lighting and starting, pneumatic tires, speedometer, Alemite lubricating system, bumper, and other sales-making features.

WINTHER MOTOR TRUCK COMPANY

Manufacturers of Motor Trucks and Motor Cars

KENOSHA, WISCONSIN

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"Wherever there's a road"

Autocar Motor Trucks are daily demonstrating in the hands of thousands of users their ability to haul "wherever there's a road," no matter how cramped the quarters or how congested the traffic.

The coal dealer finds the Autocar short wheelbase invaluable for backing into bins and for close quarter deliveries. The manufacturer relies on it for work inside his plant. The retail merchant finds it of advantage in running in traffic and loading in crowded streets.

Chassis (1½-2 Ton)
$2300, 97-inch Wheelbase
$2400, 120-inch Wheelbase

THE AUTOCAR COMPANY, Ardmore, Pa. **Established 1897**

The Autocar Sales and Service Company

New York	Boston	Philadelphia	Chicago	St. Louis	San Francisco
Brooklyn	Providence	Allentown	Pittsburgh	Los Angeles	Oakland
Bronx	Worcester	Wilmington	Washington	San Diego	Stockton
Newark	Springfield	Atlantic City	Richmond	Fresno	San Jose
New Haven	Camden, N. J.	Baltimore	Atlanta	Sacramento	

Represented by these Factory Branches, with Dealers in other cities

Autocar

Wherever there's a road

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POWER WAGON

VOL. XXIV. CHICAGO, SEPTEMBER, 1920. No. 190.

Chicago to Organize Its Suburban Hauling Lines

ASSOCIATION OF COMMERCE BEHIND PLAN

Through a movement under the direction of the Chicago Chamber of Commerce it is quite probable that motor truck hauling interests will be organized and the business conducted under a system to be approved after a thorough investigation has been made of conditions. At the present time a survey of the Chicago interurban territory is being made and it is the intention of those behind the plan to organize freight routes between Chicago and towns within 100 miles.

The hauling business as now conducted between these points is pretty much on the hit and miss plan. There is no regularity of rates, schedules are not dependable and the service is not anything like what it should be.

If conditions prove to be favorable it is part of the reorganization plan to establish a central freight terminal in Chicago where all out-going freight will be collected and to which point all in-coming freight will be routed. It is claimed that there are over 9,000 motor trucks in Chicago engaged in the haphazard hauling of freight to suburbs and neighboring towns.

Motor Accessory Market in Europe Not Bright, Says M. L. Heminway

It is interesting to note that M. L. Heminway, general manager of the Motor and Accessory Manufacturers' Association, who recently reutrned from an industrial survey through England, France and Belgium, is not impressed with the far heralded fact that Belgium is a destroyed nation. He says that the devastated areas have been restored and that industry is reported to be approximating 80 per centum of normal production. Speaking of the conditions as he saw them in the countries mentioned, Mr. Heminway says:

"The outlook on the automobile industry as I view it, is not at present a bright one. In France I was informed that the productive capacity of the automobile plants is sufficient to take care of the estimated demand for five or six years. While they have not made very much progress in the way of mass production, some of the manufacturers have a tendency toward it, as in the case of Citreon. The cost of operation is a deterring factor, as in France to-day gasolene costs about $1.30 a gallon. There is apparently very little interest taken in standardization, and while some of our manufacturers are doing business there, I feel that France does not offer very attractive opportunities to the motor and accessory manufacturers for some time to come.

"The same opinion obtains with regard to England. There, more than in France, is opposition to American aggressiveness. Some of our manufacturers of smaller cars, as well as tires, and a few other accessories constitute to the British mind a real menace to their home industries, and various methods of meeting American competition are being actively discussed."

Bankers Aid Maxwell

The somewhat complicated situation existing in the affairs of the Chalmers and Maxwell companies, it is announced has been smoothed out and that the two plants will soon return to normal operating conditions. Bankers for the Maxwell Motor Company have advanced between $3,000,000 and $4,000,000 to tide it over until such a time as a reorganization can be effected on a permanent basis. Walter P. Chrysler, closely allied with the John B. Willys interests, will head the management committee which is to operate the plants and work out the reorganization plans.

'Buses Run in Detroit

As the ultimate solution to the problem of passenger transportation in Detroit, motor 'buses are now running on the streets of the City of the Straits. Fifteen new 'buses have been put in operation, with plans for 85 more as soon as the operating company can secure the equipment. The new service was started on Jefferson Avenue, to be followed by lines on John R Street, Lafayette and Grand Boulevards and Cass Avenue. The Grand Boulevard line will parallel the belt line of the street railway system.

Receivership for Bethlehem

With the assent of both the company and the creditors, who allege that the corporation is solvent, the Bethlehem Motors Corporation was placed in the hands of a receivership August 25. Assets are given as $4,900,000, with liabilities of $3,000,000. Merchandise creditors' claims are about $600,000. The company has been employing about 1,000 men, many of whom are stockholders.

Production and Economy To Quiet Present Crisis

DUTY, NOT RIGHTS, SHOULD RULE

F. A. Seiberling, president of the Goodyear Tire & Rubber Company, in a recent statement to the Akron Chamber of Commerce, said in part:

"The debris of the war cataclysm that rocked civilization and caatapulted prices to the highest plane ever known is steadily settling through the influence of natural forces. The process is orderly and certain. It is not confined to any community or to any nation, but is world-wide. The existing plane of values is certain to be lowered until it reaches proper balance and will not be finally accomplished in a month or a year, but will take many years.

"The people of every civilized nation will have their share of distress in this process of re-adjustment—those of the United States probably the least of all, because our natural resources are greatest of all.

"The business situation is acute at this time while the adjustment to the shock of restricted credits applied by the Federal Reserve Banks and the effect of the railroad strike are being made. Within a few months this extreme pressure will have been removed, but the orderly process of deflation of war values will move steadily to an equilibrium. So far as Akron is concerned, we have reached bottom in the production of tires. Abnormal stocks over the country are being steadily absorbed and the curve of production within a few months will be steadily upward.

"The present depression is transitory. It will be overcome with least difficulty if everyone will do more work, waste less and talk less. We need no further enlightenment about our "rights"—we need a higher understanding of our duties. We consume more than we produce. More production, with more economy in our spending, is the only solution. This is the time for sensible optimism. Too many people have shown lack of confidence. They have worried and talked, instead of working. This has helped make the situation more serious. Such an attitude is destructive. Everyone who is conscientiously desirous of doing his duty to himself, and to his country, will in times like this keep faith, do more work and keep cool."

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Nearsightedness Places Motor Truck Credit Gag

ESSENTIAL INDUSTRY HELD UP BY BANKS

CHICAGO, ILL., August 21.—With legislative coöperation granted to a degree never dreamed of to the railroads of the country, the all-absorbing question in the motor truck manufacturing industry is, whether motorized transportation is to be strangled or given an opportunity to continue the efficient work which it alone can perform in its particular field.

Operating to capacity production in an effort to build up the transportation system of the country, to take off of the railroads at least the short hauls and to relieve congestion at terminal points has been one of the main plans in the motor truck manufacturer's program. To get machines to the farmers in an effort to give him better and direct markets and obtain lower prices and fresh produce for the consumer has also been linked in this motor transportation manufacturing program. Every possible effort has been made to have the motor truck manufacturer operate to capacity production. In cases of embargoes the motor truck manufacturer was classed as an essential manufacturer and given the right of way to move units with which to assemble his motor trucks. Propaganda of various kinds has been circulated to keep the motor truck manufacturer's enthusiasm to fever pitch in an effort to get his product out to fill current orders and to foster the sale of more motor trucks for the above vital reasons.

This propaganda has been approved by certain railroad officials, by the government, economists and hosts of other officials having the country's welfare uppermost in their minds. Huge expenditures have been appropriated to put the highways in shape to take care of motorized transportation. The path laid out for the manufacturer, who religiously followed his part in the program has been ruthlessly shattered by the stringent financial rope that is strung around his neck, the throat of his dealer and the pocketbook of the customer. The motor truck manufacturer wants to know why his product should be classed as a luxury industry, when right along he has been put in the essential class. He wants to know the meaning of the present financial stringency in so far as it pertains to him and the program that he has followed in a patriotic as well as public spirited manner.

Grave questions confront the manufacturer who has orders for a big production schedule with his parts manufacturer, who has increased capital investments to take care of increased production, who has laid out big advertising schedules to take care of the propaganda that the program prescribed was to be his part.

He wants to know the meaning of it all. No one has come forth to tell him what has caused the Federal Reserve Bank to want to strangle this essential link in transportation system of the country. What has caused the program to lead the manufacturer on to a big investment and then without being told the cause cut adrift. It is said in all quarters that motor trucks should not be affected by the present financial tightening—but still there is no loosening up of credits to allow motor truck sales to be financed. What the manufacturer wants to know is what the new program provides for and how he should guide himself. He asks himself if he has too religiously followed the plans laid out for him and has some one found that motor trucks are making progress too rapidly in the upbuilding of the country's short haul transportation system?

Every newspaper has been carrying in its column articles from the best financial brains of the country setting forth the difficulties faced by the commerce of the country due to congested transportation, caused by the shortage of railroad facilities. This shortage in turn being due to the curtailments of credits to our railroads, preventing them from financing the necessary purchase of equipment to meet the demand made upon them to carry the commodities of the country from producer to consumer. Is it part of the program, the motor truck manufacturer queries, to halt manufacturing until the railroads can catch up? "If it is," they further say, "the public should be informed."

The Interstate Commerce Commission, the manufacturers here in Chicago further argue, have granted large increases in rates to enable the railroads to show prospective earnings sufficiently large to justify the sale of security and equipment notes. Bankers representing the roads have been preparing the investing public for their offerings by pointing out that transportation is necessary to the continued prosperity of the nation. Are they now overlooking the fact that the motor truck is one of the modern forms of transportation and just as vital in its degree as the railroads, as an auxiliary in their work and only in part a competitor? Must the motor truck suffer for the blunders of past government control of railroads?

Motor truck users, the manufacturer points out, give security for their deferred payments in the same manner that railroads give their equipment as security for deferred payments on their purchase. Motor truck users ask time payments for a few months, railroads for a few years.

Motorized transportation is a great factor in the reduction of the high prices of to-day. The necessary proposed aid to the railroads, it is further argued, should be augmented by financial recognition by the bankers of the country with federal reserve support to the motor truck user, he is doing his share toward moving commodities and is entitled to consideration and extension of such proper credit that will enable him to fulfill his part of the demand made by modern requirements on transportation.

Case to Make Truck

The J. I. Case Plow Works Company, Racine, Wisconsin, has had in development for more than a year a motor truck especially designed for farm work. This machine, which will be known as the Case, will be manufactured in addition to the regular line of the company, which consists of tractors, threshers and farm implements.

Bankers See Importance Of Motor Truck Sales

INDORSE PURCHASE AND USE OF MACHINES

The Garford Motor Truck Company recently wrote to a number of prominent bankers, asking for an expression of opinion as to the importance of the motor truck in the traffic emergency that exists and the willingness of financial interests to endorse the purchase and use of motor trucks.

An official of a large metropolitan bank stated that the present money situation made it necessary for the restriction of loans in his institution to non-essential industries. "We are able to advise you," he added, "that in no case has this bank requested its motor truck customers to reduce their loans, for the reason that we do no look upon this industry as being in the non-essential class. We appreciate fully the value of motor truck transportation in the present serious freight congestion and this bank has never lumped together the motor truck and passenger car business. We have a number of accounts of both kinds and recognize that they require different treatment."

Another New York banker summed up the question as follows:

"With the railroads facing a shortage of equipment and taking into consideration the fact that the motor truck offers a haulage economy and touches many points off the usual main lines of transportation, thus being essential to food producers, one can not doubt that the motor truck has won its place as a staple commodity and is a compelling factor in our transportation problems. In view of these facts it is difficult to see how the motor truck can be classed as a luxury."

Other bankers stated that the motor truck should be recognized as a necessary implement with which to do business and that its purchase ought to be encouraged by bankers generally through proper extension of credit where it is applied for and with the same liberality with which credit is granted to purchase other tools and equipment.

Public Wins Strikes

Strong public sentiment against the strikes in the motor truck factories in Cincinnati has won against the fight made by organized labor against the open shop principle. The methods to break the strikes, used by the manufacturers, had an element of newness in them. Appeals were made directly to the families of the strikers. In most cases the wives showed themselves to be against the strike and used their influence to help break it. The laboring forces in the factories are not yet back to normal but the manufacturers report that production is almost normal due to the fact that the men are not now working under the discouraging influence of agitators.

Gramm-Bernstein Stock Increase

The Gramm-Bernstein Motor Truck Company recently granted a stock dividend of 50 per centum and at the same time decided to raise its capital stock from $1,500,000 to $5,000,000, the entire amount to be issued as common stock.

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Railway Officials Favor Highway Transportation

DECLARE MOTOR TRUCK MUST AID

Railway officials, since the nation-wide freight tangle developed have been inclined to be reticent on the subject of motor truck coöperation as a substantial aid in solving the country's transportation problems.

Recently the National Automobile Chamber of Commerce wrote letters to a large number of prominent railway officials asking their opinion of the position the motor truck should occupy in the transportation problem of the country during the present freight tie-up and in the future. The following statements from railway officials illustrate the attitude of railway management toward motor truck transportation.

Statement of Norman Call, vice-president, Richmond, Fredericksburg & Potomac Railroad Company:

"I think what you say regarding the high importance of the motor truck in the commercial life of the nation, is conceded by every thoughtful man, and I believe also that the railroads almost without exception realize the value of motor transport as feeders for main lines."

Statement of J. E. Gorman, president, The Chicago, Rock Island & Pacific Railway Company:

"There is no question of the value of motor trucks in serving rural communities and I think equally they can be used to advantage in the transfer of freight in large shipping centers, replacing trap cars now used for that particular purpose, which experiment has been tried in at least one very important city."

Statement of J. J. Bernet, president, The New York, Chicago & St. Louis Railroad Company:

"We, of course, are interested in anything and everything that will tend to relieve the traffic situation which seems to be in an unsatisfactory state at the present time."

Statement of C. L. Bardo, general manager, The New York, New Haven & Hartford Railroad Company:

"The industrial development of America has outstripped its rail transportation facilities to such an extent that we are face to face to-day with a serious economic transportation question. I am inclined to believe that the conclusion reached as to the handling of short-haul l. c. l. traffic by motor truck, and long-haul bulk l. c. l. traffic by rail is the correct step, and there only remains the development of the proper public sentiment to give voice to such laws and protection as will make this conclusion effective."

"Any solution of the question along this line creates serious and far-reaching problems, and it can hardly be expected that the subject will be disposed of out of hand. In the end, I feel sure that you will find the railroads co-operating with any properly constructed public body in an effort to reach a complete understanding upon any fair and equitable basis."

Statement of F. D. Underwood, president, Erie Railroad Company:

"The Erie Railroad is interested in motor truck transportation."

Statement of Gerrit Fort, vice-president, Boston & Maine Railroad:

"We are very much interested in the development of motor truck transportation and hope that such development will follow wise and proper economic lines."

Statement of B. F. Bush, president, Missouri Pacific Railroad Company:

"Highway transportation by motor truck will undoubtedly be of considerable volume in the Southwest, particularly in the states of Arkansas, Louisiana and Texas. Large appropriations have been made by the legislators of these states for highway construction and upon completion of this work, I am very sure that the opportunity for motor truck transportation will be larger than ever."

Statement of H. E. Byram, president, Chicago, Milwaukee & St. Paul Railway Company:

"It seems to me that the motor truck as a transportation factor has a field where it can be useful in the handling of miscellaneous short-haul traffic in and near congested centers, and no doubt the present situation will afford a favorable opportunity for development of the motor truck in the field where it can be most useful under normal conditions. Fortunately, the conditions under which the motor truck can be operated to the best advantage is in the handling of traffic which is most expensive for the railroads to handle."

Statement of C. A. Phelan, general manager, Missouri & North Arkansas Railroad:

"There is no question but what the motor truck is a great asset in the handling of freight to and from the railroads to the interior country, and there is an opportunity for considerable development along such lines in this country."

Statement of Daniel Willard, president, The Baltimore & Ohio Railroad Company:

"I think I realize properly the importance of motor truck transportation, and I believe it is to the best interests of the country as a whole that such transportation be further developed along economic lines."

"I think there is a very proper economic field for all agencies of transportation so far developed, and wherever it can be clearly shown that the motor truck can perform the transportation service required at a total economic cost lower than the cost when the railroad is used, then in the public interest the motor transport system should be used. The railroad and the motor truck have each their own sphere of economic usefulness, and in my opinion, it would be a mistake for either one to extend its influence and activities beyond the economic limits clearly established."

Statement of W. H. Finley, president, Chicago & Northwestern Railway Company:

"The development of the motor truck for short-haul freight transportation is a very large and a very important subject at the present time."

Statement of W. G. Besler, president, Central Railroad Company of New Jersey:

"There can ben o question in the mind of anyone concerning the important part that the motor truck has now come to play in the matter of transportation in this country, nor that it has come to stay and to supplement railroad service, just as the automobile and trolley car has supplemented and extended the radius of suburban life.

"The motor truck for intra-city movement and for inter-suburban service will fill a much needed gap, and will do more economically and efficiently for the l. c. l. business which has been forced upon the railroads, and must be handled through transfer houses and platforms, subject to the excessive cost of such service, in addition to the delay to the shipment itself."

N. A. C. C. Asks Uncle Sam To Save Gasolene Supply

SENDS PROGRAM TO STANDARDS' BUREAU

Following the recent appeal to the Society of Automotive Engineers, of General Secretary R. I. Welch of the American Petroleum Institute to the effect that engineers begin at once the redesigning of internal combustion engines, the National Automobile Chamber of Commerce has suggested the following progress for governmental research and submitted this program to the United States Bureau of Standards:

(a) Securing of greater economy in the use of present commercial gasolene in present equipment without appreciable sacrifice of power, acceleration and general performance.

(b) Investigation into the possibility of a wider use of blended and substitute fuels which will make commercially available in increasing amounts other fuels, such as benzol, alcohol, etc., and possibly of less volatile petroleum products to some extent, thus increasing the total available fuel.

(c) An educational campaign coupled with any practicable restrictive measures to check the growing adoption of fuel oil as fuel where coal can be used.

(d) The ultimate development of more economical transportation through a study of the mechanics of vehicles, elimination of excessive mechanical losses, possible reduction in weight, and a training of users, particularly users of business vehicles, to accept a less exacting standard of performance.

(e) The ultimate development of power plants having higher thermal efficiency and less exacting demands as to quality of fuel.

Motor Vehicles Double Export Records in Fiscal Year 1920

That the motor vehicle manufacturers of the United States have been busily engaged in cultivating foreign markets, despite the unprecedented domestic demand for their product, is revealed in the fact that exports of passenger cars and motor trucks in the 1920 fiscal year were 158 per centum greater than the previous twelve months and nearly 75 per centum larger than in 1917, the best previous year.

In the twelve months ended June 30, last, the United States exported 115,519 passenger cars valued at $125,384,025, and 24,356 motor trucks valued at $41,577,684, a total of 139,875 motor vehicles worth nearly $167,000,000. This compares with 54,212 vehicles of all classes valued at $79,086,190 shipped out of the country during the previous year and represents an increase of more than 59,000 vehicles over exports of 80,785 in 1917.

The B. F. Goodrich Rubber Company has guaranteed its present prices against reduction before November 1. The date set is said to be without particular significance since it is the date on which end many selling contracts.

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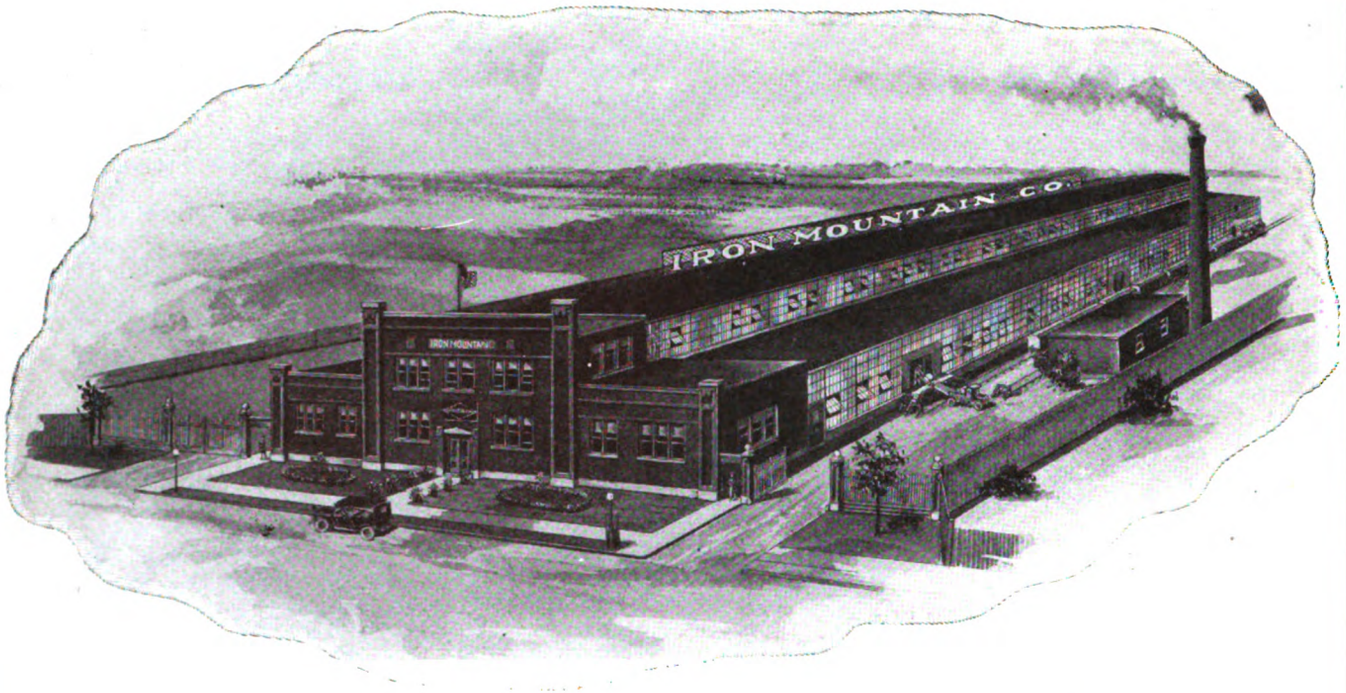

IRON MOUNTAIN CO.

Worm Drive Axles

Built in a new, modern axle plant, conveniently located in Chicago's steel and iron manufacturing district, where every facility for the prompt supply of necessary axle material is at hand.

Truck builders will get dependable axle service from us, coupled with a product which embodies the latest and best engineering practice in rear axles.

IRON MOUNTAIN CO.

927 East Ninety-Fifth Street Chicago, Illinois

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POWER WAGON

An exponent of the most enlightened thought and practice of the motor truck industry.

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THE POWER WAGON PUBLISHING COMPANY

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CHARLES E. SHAFER, *Associate Editor*

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New York Office, 51 East Forty-second Street.

The Business Situation

A GREAT deal of uncalled for pessimism concerning the present condition and future prospects of the motor truck industry has been circulated by the daily press and by the irresponsible talk of commercial "bears," to the mystification of those who really know the situation in all its details and to the confusion of those who are easily deluded by superficial observations. Not that any one familiar with the state of general business would honestly deny that all forms of industry have been sprung badly out of shape by the inflexible credit dilemma in which we have allowed ourselves to become involved, but there is altogether too much looseness of expression and exaggeration of fact in the wild reports of stagnation that receive credence.

We are not alone in deploring the prevalence of these mischievous statements, nor are we alone in desiring that the true state of affairs and its real causes be given an airing. Numerous careful and conscientious investigations independently carried on indicate very clearly that the situation is not nearly as somber as pictured nor the future as hopeless as foreshadowed, but that the effect on this industry, like that on all other industries, has been alarm more than hurt. There has been no appreciable damage to the well-knit fabric of the trade, there has been no permanent injury done to its attentive and well-grounded members, there has been no diminuition of the industry's future chances. Indeed, there has been nothing more than a sharp readjustment of business programs to the limitations of credit facilities. The chief disquieting feature is to be found in the fact that the restraining influence was imposed from without instead of from within.

The most obvious disclosure of all careful investigations is the purely local character of what have been considered the most serious aspects of the situation. We are living in an 8 per centum money market, which is in itself sufficient indication of the restrictions necessarily imposed on promiscuous borrowing, but it is notorious that there is little or no uniformity in the ways of interpreting the advice of the Federal Reserve Board in the scrutinizing of loans. This is particularly true with respect to money lent for the purchase of motor trucks and farm tractors. For these laudable purposes money is readily available in many quarters, obtainable with some trouble in others, and entirely out of reach elsewhere. This situation, in the very nature of things, is bound to right itself, if the banking system of the nation is not to crumble. Institutions living out of the free circulation of money and the granting of credit can not remain long intact if the legitimate needs of business are not met.

Among the well-established members of the industry, in its manufacturing, distributing and retail branches, no alarm is evident, the great majority taking the reasoned view that the existing conditions are merely temporary in character, that there is no slackening in the desire to purchase, but only an inconvenient inability to do so because of arbitrary credit restrictions, that wherever production has been curtailed this step has been necessary in order to adjust output to buying demand, and that where cancellations, schedule revisions and delivery hold-ups have been common these are but signs of a desire to "mark time" and are not to be construed as an indication of a choked market.

Failures are common in all lines of business even in the most prosperous times; that they are more numerous now should cause no great concern, seeing that credit is the very foundation of all commercial enterprise. The summer season is always one of relative inactivity in many lines of trade; that this annual condition should be co-incident with a rigid credit situation is unfortunate but not alarming; it merely beclouds the outlook. Oversold factories, have been very quickly converted into over-produced factories, so that output schedules have been revised just as in all other times of under-normal buying.

Many manufacturers anticipate an early revival; some expect the return to normal to begin this month, others in October, most of them look for complete readjustment before Christmas, and even more hopeful is the feeling among dealers and distributers, many of whom are increasing their orders in anticipation of a heavy fall trade. This optimism is current among those who have taken the pains to make themselves informed of the real state of affairs and those who have been the recipients of trust-worthy accounts. The period calls for nothing so much as for sane thinking, cool temper, and confidence. This presumes that good business men have not lost all capacity for deliberate and well-considered action.

What of L. C. L. Freight?

THE SHOCKING inadequacy of our railroads is soon again to be forcibly impressed upon us by the arrival of winter, for, in spite of an additional revenue of a billion dollars annually, they will be unable to repair their deficiencies in less than from five to ten years. Meanwhile the country's industries must groan under the burden of inefficient and incomplete transportation service.

By a policy of studied silence the railroads have shown their unwillingness to grant to the motor truck its proper place in intercity haulage, and where its competitive ravages have been felt they have complained bitterly of the unregulated operation of motor lines. When they have spoken, they have shown, with two or three conspicuous exceptions, a desire to consider the motor truck merely as a means of feeding business to the railroads and not as a medium of highway transport to which a share of their burdensome and costly traffic can be diverted. The attitude of the railroads toward the motor truck is not one of receptivity but of poorly disguised hostility. They offer, not to take it in as an essential part of the nation's transportation scheme (of which they claim to be the rightful custodians), but to oppose its use at every turn by clinging desperately to a form of haulage for which they are wholly unfitted and for which a superior tool exists.

Is it not time for a precise definition of the respective spheres of the railroad and the motor truck in the handling of l. c. l. freight? The facts in the case are easily demonstrable. Either the railroads are fitted to care for this class of business, or they are not. They contend that they are the logical inheritors of l. c. l. business, yet they offer no sign of their ability to handle it or of their desire to equip themselves to do so.

The question, in our opinion, merits study by this industry. It should be ascertained at once whether the railroads will coöperate in serving the country's commercial interests by buying and applying motor trucks, or whether they will obstruct progress by resisting the growth of motor service operated by others. If they continue unwilling to embrace the only efficient means available for short-haul l. c. l. freight, they must be prepared to surrender that business to those who can and will handle it. The country can not afford to let its industrial life hang on the single thread of railroad transport, nor can this industry allow its potential capacity to serve lie idle out of deference to the traditional and fictitious sufficiency of the railroads. We are faced with the necessity of remedying a sore defect in the commercial fabric of the nation, and this industry needs a definite and clear-cut policy on the place of railways and motors in the general transportation system.

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Bolivia's Oil Lakes to Supply World's Gasolene

SITUATION IN UNITED STATES NOT BAD

South America promises the solution to the gasolene problem and especially is this true of Bolivia, where great fields are being opened up that promise to supply the world for generations to come. Richard Spillane, an editor of *Commerce and Finance* and financial editor of the *Public Ledger*, sees great promise in the latest oil development.

"South America is the promised land," he says. "That the continent is rich in petroleum beds the reports of geologists, German, British, French and American, testify. There are various oil fields in Venezuela, Peru, and other sections of Northern South America now in process of development, but the great oil lakes appear to be further south and some of them in regions so remote that they have commanded comparatively little attention. If these big oil pools are tapped there is probability that the petroleum supplies will be sufficient for the needs of the nations for a long time to come."

The United States at the present time is drawing heavily on imports. The total gallons of gasolene imported during the first four months of 1920 were 11,937,024, according to Bureau of Mines reports. This was an increase of 4,800,000 gallons over the same period a year ago. This increase in imports indicates an increased world production which is keeping pace with gains in the American field. The average daily margin of domestic production over domestic consumption was 2,800,000 gallons in April. According to the Bureau of Mines the exports were heavier than imports. At the end of the month the reserve stocks of gasolene totaled 643,552,644 gallons, a gain of 17,159,598 gallons over March. United States fields alone can supply all domestic demands for from 10 to 15 years, even if no new deposits are discovered.

Organizations Will Not Oppose Laws That Are Constructive

The forty or more state legislatures that will convene during the next year will receive something like 3,000 bills affecting the use of motor vehicles, according to estimates based on the number of bills presented at previous sessions. Representatives of the automotive and allied industries state that legislation proposed will range from bad, though harmless, to good, if former standards hold true.

Championing the industry against enactments that are directly discriminatory, or that are antagonistic without being beneficial to the public, the motor vehicle conference committee, composed of representatives of the six leading national bodies of the automotive industry, will be in action, in an educative way, as in former years. Present indications are that this year it will be occupied largely with warding off unfair legislation aimed at the motor truck, which quite naturally, its friends say, has made some enemies in the course of its rapid rise as an element of rural and intercity transportation.

Estimate Shows 1,000,000 Trucks in Operation at Present Time

According to reports of secretaries of state and the estimates of its own statisticians the B. F. Goodrich Rubber Company estimates that there were 953,093 motor trucks in operation in the United States at the end of 1919, as against an estimate of 700,000 at the end of 1918. This is a gain of 37 per centum.

Eighteen states of the 48 keep separate registration lists of motor trucks. Figures for those states with no separate motor truck records are estimated as follows:

State.	Rank.	Trucks.
Alabama	25	10,249
Arizona	41	*3,200
Arkansas	37	*5,600
California	5	*58,700
Colorado	20	*13,500
Connecticut	18	19,799
Delaware	45	*2,100
Florida	31	3,239
Georgia	28	9,300
Idaho	38	*5,600
Illinois	2	*65,000
Indiana	10	*36,000
Iowa	6	*42,500
Kansas	12	*27,800
Kentucky	20	9,105
Louisiana	32	*7,100
Maine	36	5,792
Maryland	26	10,160
Massachusetts	8	42,000
Michigan	9	36,863
Minnesota	11	*34,300
Mississippi	35	*6,350
Missouri	14	*25,000
Montana	47	1,200
Nebraska	13	*27,300
Nevada	48	*700
New Hampshire	40	*3,902
New Jersey	17	20,000
New Mexico	43	*2,810
New York	1	94,716
North Carolina	29	9,150
North Dakota	46	1,314
Ohio	3	*64,500
Oklahoma	16	*20,100
Oregon	23	*11,300
Pennsylvania	4	*64,200
Rhode Island	33	7,000
South Carolina	27	*9,600
South Dakota	18	*14,205
Tennessee	21	12,000
Texas	7	*42,250
Utah	39	*5,300
Vermont	44	2,402
Virginia	22	*11,800
Washington	15	*23,600
West Virginia	34	*6,700
Wisconsin	24	10,887
Wyoming	42	*2,900
Total		953,093

*Estimated.

Traffic Victims Increase

The total of automobile fatalities, 420 in 1919, in Cook County, Illinois, is the largest number for any one year since the introduction of the automobile. There has been a continuous increase of these fatalities year by year, with the exception of 1918, when the record of deaths was 17 below the record for 1917. The year 1919 shows a decrease in motor truck accidents. During this period 127 children were killed by motor trucks.

Bollstrom New 4-Wheel Drive

As the product of the Bollstrom Motors Inc., a new 4-wheel drive motor truck known as the Bollstrom has made its appearance in St. Louis. This machine is a high powered, high speed vehicle with a 144-inch wheel base and a total length of 240 inches.

Report on Road-Building Shows Marked Progress

FEDERAL-AID PROVES STRONG STIMULUS

WASHINGTON, D. C., AUGUST 20: Under the stimulus of federal-aid during the last four years road-building operations initiated under this plan aggregate in length nine times the distance from New York to San Francisco.

Second only in importance to the size of the present road-building program is the excellence of the character of the roads being built. Sixty per centum of the total allotment of federal funds which has been approved to date will be spent for roads of such durable types as bituminous concrete, Portland cement concrete, and vitrified brick. These roads when built will increase by 7,600 miles the total of 14,400 miles of roads of this class which existed in the United States before the federal-aid road law was passed. But these figures by no means represent the total mileage effected.

In 1915 the total expenditure for roads and bridges by all the states and local governments was $267,000,000, while this year the estimated funds available for main road construction are nearly three times that amount, or $633,000,000. In all, federal funds to the amount of $266,750,000 have been apportioned among 48 states.

In 1915 only 30 per centum of the money appropriated for road improvements was expended under the supervision of State Highway Departments. This year these departments will control at least 80 per centum of the money to be spent for road-building.

Up to June 30, 1920, 2,985 projects involving a total of 29,319 miles of road had been approved by the Secretary of Agriculture. The preliminary estimate of the cost of these projects is approximately $384,900,000, of which approximately $163,841,000 will be approved as federal-aid. On the same date 2,116 projects representing approximately 15,944 miles had either been completed or were under construction. The estimated total cost of these projects in various stages of construction and completed, is $200,000,000. The total cost of federal-aid work approved by the secretary in the 19 months subsequent to the signing of the armistice, and prior to July 1, 1920, which is aproximately $330,000,000, exceeded by $63,000,000 the cost of all road and bridge work done by states and counties in this country in 1915. The value of the work completed during that period amounted to $60,000,000, a rate of construction equaling that of the Panama Canal.

I. A. T. A. to Issue Monthly

The Illinois Automotive Trade Association, the state organization of the men who deal in motor vehicles and accessories, has shown an extraordinary growth since it was first organized. The membership has assumed such large proportions that it has been decided to issue a monthly publication devoted to the interests of the membership. The first number is expected on September 15.

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Iowa Farmer Thinks Well of His Truck

Declares It Is Greater Time and Labor Saver Than His Tractor; Reduces Horses to Four

"I CAN'T see why farmers, some farmers, are slower about buying motor trucks than they are about purchasing tractors," is the way F. Bierbaum, a Clayton County Iowa farmer, states his view of the matter. In his own neighborhood there are many tractors but only very few motor trucks. He has had a tractor and other motorized machinery for several years, and a motor truck for a year and a half. "I am for the tractor all right," he says, "it is all they claim for it and every farm should have one, but, do you know, I am inclined to believe that farmers will find out in the end that the motor truck is really a bigger time and labor saver on the farm than the tractor. Just the hours saved for work on the farm in making trips to town by motor truck instead of team makes a machine pay for itself. But that is only a part of the use I have found for my motor truck."

Mr. Bierbaum has a large farm and has been a victim of the hired help problem. With a tractor, motor truck, automobile and other motorized field machinery he has solved a part of the help problem and has been able to reduce his horses to four. He uses the motor truck for practically everything. At seeding time he hauls his seed to the field with it, and runs it up near the tractor. "Wherever I place it in the field it stays. I don't have to bother tending it as I do with a team. As seeding progresses, I now and then start up the motor truck and move along down the field to a more convenient place for filling the seeder with seed."

In digging and hauling his potatoes he used the motor truck entirely last fall. He has a rack, of home manufacture, and hauls hogs and calves to market in it. He takes in crates of chickens and cases of eggs. He has hauled lumber, brick, cement and barb wire and practically everything in the way of building material and repairs and supplies for both farm and home. He has brought out new implements from town either in the machine or trailing them. He has converted the power wagon into a picnic wagon several times. He takes the motor truck to the woodlot and loads up with the cordwood for domestic use.

What he did with the motor truck one hot day last summer, is the story Mr. Bierbaum tells with the most enthusiasm. His farm is nine miles from town. One load to market is a hard day's work for a team in hot weather, not to mention a hard day on himself plodding along at a slow pace for the better part of the day. This August day last summer, the market quotations were attractive on timothy seed and he had a lot to sell. He made three trips to town in a day. "With the motor truck I had done three days' work in one," he says, "and what's more, I had the advantage of marketing when the market was at its best."

"Here's another thing," he says, in connection with his three trips in a day to the elevator with timothy seed. "It's a little thing but it is important. All elevators, you know, are located beside the railroad track. Farmers for years have been troubled with handling their teams around the tracks when unloading at the elevators. You can drive a motor truck up beside the tracks and forget all about it. It won't run away, if a train comes while you are gone."

Mr. Bierbaum's machine is a "big 1-tonner." He thinks this is the best size for use in the field and also for the average country dirt road.

Motor Truck Interests Should Prepare Now for Snow Removal

A careful review of the transportation situation makes it evident that during the coming winter the railroads will be confronted with congestion problems as great as, if not greater, than those which held up their freight movements last winter. As before, so again, this will throw upon motor vehicles the necessity of hauling vast quantities of commodities over the highways and in addition will oblige manufacturers of motor vehicles to deliver their products to purchasers by the overland drive-away method.

Both of these considerations make it imperative that those highways over which the bulk of these commodities and the majority of these drive-aways will pass, be kept free from snow and ice at all times. As a general thing such traffic passes over the highways under state control although there are long strips of thoroughfares where counties, cities, towns or other types of authority exercise jurisdiction.

The highway officials of some of these states and other jurisdictions now have the power and appropriations necessary to care for snow removal from their highways during the winter of 1920-1921; the majority of them do not. It is therefore imperative that motor truck dealers and operators learn how the matter stands in the case of highways in which they are interested and wherever no provision for this all-important work has been made, take active steps to point out to the authorities the need for looking after this vital matter at once.

Farm Motor Trucks Equal to 12 Men and Teams in Grain Haul

Motor trucks are coming into competition with horses in hauling grain from the farms of Central Illinois. In moving corn from the farm of J. B. McReynolds in McLean county, motor trucks made the round trip from the farm to the elevator and back, three and a half miles, in twelve minutes. The expedition with which the grain was moved, as compared with the slow-moving teams, was a revelation to the farmers of the community. It was estimated that four men with motor trucks equalled the movement of twelve men and twelve teams.

Menominee and F. W. D. Lines Gain

The Menominee line of motor trucks recently acquired by stockholders of the Four Wheel Drive Auto Company will be handled by the present distributers of FWD machines, in conjunction with other Menominee dealers being established, throughout the country. The Menominee line embraces 1-, 1½-, 2- and 5-ton models. Work on the new Menominee factory which is being erected in the vicinity of the Four Wheel Drive plant in Clintonville is being rapidly completed and it is expected that within a short time the reorganized Menominee Truck Company, of Wisconsin, will move its entire force of workers and machinery to its new headquarters where production will begin on an increased scale.

The American Bosch Magneto Corporation has taken over as selling agent the entire output of Gray & Davis, of Boston, which includes starting, lighting, battery ignition systems and other accessories.

Truck which farmer can not do without.

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Agricultural Tractor Trials to Be Held in Egypt in January

Agricultural tractor trials will take place in Egypt in January and March, 1921. Entries must be made not later than November 30, 1920. This country offers an excellent field for the sale of American agricultural machinery, and there is a possibility that farm implements other than tractors and plows could be exhibited.

The trials, which are open to agricultural tractors and self-contained plows of all kinds, will take place in two parts: Plowing of medium land for cotton in the southern delta about the last week in January, 1921, and plowing of heavy land in the northern delta about the first week in March, 1921. The same machine may take part in one or both trials, but separate reports will be published. The judges in their report will take into consideration the weight of machines full working order; amount and cost of fuel and lubricating oil per acre; water evaporated per acre; ease of handling (including starting trouble and turning); reliability (freedom from mechanical troubles); capital cost on date of trial; mechanical construction, having special regard to simplicity and accessibility to wearing parts; safety of operation; number of attendants; capacity in acres per day of eight hours; and working cost per acre.

Plows will be judged on the basis of (a) construction and operation, (b) adaptability for different widths and depths of plowing or cultivating, (c) quality of work done, and (d) capital cost on date of trial.

[A complete copy of the regulations and a copy of the entry form may be inspected at the Bureau of Foreign and Domestic Commerce by referring to file No. 13473.]

Unity Produces Results

Scarcely a month passes but the members of the Bloomington Automobile and Tractor Association are given a demonstration of the value of their organization to the men associated. The latest evidence was shown when the city council railroaded through an ordinance placing a tax of $100 annually upon each gasolene filling station. The dealers met, following this action, and voted to call upon the council in a body.

The result was that the council reduced the tax from $100 to $25, thus saving each member of the association $75. But for the united action of the dealers and the effectiveness of their organization, the reduction would not have been considered. A number of automotive dealers of Bloomington who previously could not be induced to join the association but who became convinced of its value, following the successful protest in relation to the filling station tax, asked to be voted in and agreed to lend their hearty support in the future.

G. M. C. Profits Increase

The General Motors Corporation set up a new record for a half year's earnings by returning net profits of $35,151,114 after all charges and federal taxes for the six months ended June 30, last. This represents an increase of $4,500,000 over the net profits for the first six months of 1919, the best previous half year's showing.

Increasing Motor Traffic Points Need of New Roads

OLD CONSTRUCTION METHODS HAVE FAILED

Recent emergency performances of the motor truck have visualized to such good effect the important part the motor truck can take permanently in America's transportation system that sentiment, according to editorial comment, is crystalizing in many sections of the country in favor of better constructed and better maintained highways of the hard-surfaced type. "Road building methods of ten years ago no longer are adequate," sums up the opinion expressed by the press in widely scattered sections.

In Ohio the call is going forth for concerted action to take road building from county jurisdiction and place it in the hands of a centralized state department. A growing demand for centralized authority to enforce road laws and direct maintenance work on roads also is making itself evident.

In the state there is a 39-mile stretch of road paved with brick that figures probably would show as carrying more vehicular traffic each twenty-four hours, measured by tonnage, than any similar stretch of road anywhere. It lies between Cleveland and Akron, cutting through one of the country's greatest industrial districts.

Motor truck traffic over this road has been augmented to such a degree recently, due to the congestion at railroad terminals, that the motor trucks have been moving over it day and night in what amounts to a practically unbroken train. Without this over-the-road service, Akron and Cleveland industries would have been crippled long ago, manufacturers have stated. But its interruption is threatened now—because of the poor condition of the roadbed.

The motor truck operators have been blamed. They have been accused of taking 20-ton loads over the road at excessive speeds. This they have denied as absurd, claiming that a load of that size could not hold the road at an excessive speed.

In the course of the newspaper controversy which developed the Cleveland Commercial Car Drivers' Association came forward with a call to all persons and organizations interested in good roads to get together on constructive policies instead of destructive arguments. The experience of the last three months, members said, has shown at least two things:

(1) That interurban transportation by motor truck has come to stay.

(2) That from this time on remedial measures alone will not be sufficient, but that new policies in road building must be adopted at once to meet the necessities of motor truck traffic.

They declared that the roads "crumple and heave up" in places where heavy motor trucks are excluded as well as where they are running, and that excessive rainfall this spring, frosts and spring thaws, together with the lack of proper drainage and the poor construction of roads, were more responsible than anything for the breakdown.

The clamor against motor trucks is merely evidence that "trucks make fine goats."

"Transportation costs enter into everything we make, eat and wear," the commercial car drivers said in their call to the public. "Motor truck transportation of to-day is nearly as big a factor as railroad transportation, and, therefore, affects every person. Everyone knows that heavy duty power wagons do the major part of the work and do it at a much lower figure than light machines, as proved by all cost records and government bulletins. To do away with heavy duty motor trucks would immediately boost the high cost of living and widely affect everyone." Roads planned right and built right are the only solution, they declared.

In conclusion, they proposed "that all persons and organizations having a vital interest in good roads demand and insist on the enforcement of the road laws."

Life Period of Motor Trucks No Longer Placed at Five Years

Someone said, once upon a time, that the life of a motor truck was "about five years," and in arguments both for and against the power wagon this life period is always coming to the front. Along the line of longevity, it is significant to note that entire fleets of motor trucks bought many more than five years ago are still in operation and delivering the same efficient service as that required of new machines.

Higgin's Tours, of Chicago and New Orleans, has five of the very early Macks still running continuously. They are all sightseeing motor 'buses. One is 19 years old, another 18 years old, another 17 years old, and the remaining two are 14 years old.

Cook's Tours, of New Orleans, is still running regularly five old 'buses ranging in age from 8 to 13 years.

Kirkman & Son, of Brooklyn, has a fleet of 8 old Macks between the ages of 8 and 13 years.

Harry Goldberg, of New York, operates 30 of 5 tons' capacity each. The majority are over 9 years old while many have been in service for 11 years.

Leo Potter, a hauling contractor in Paterson, New Jersey, recently sold a 5-ton machine that he had run for 10 years without a single overhaul.

R. H. Macy & Company, of New York, has 15 old models in its fleet of 62. They are from 8 to 12 years old.

A. Krumenaker, of New York, reports that his 10 old machines, between 8 and 10 years old, are still giving service as good as could be expected of new trucks.

The American Sugar Refining Company, of New York, operates a fleet of 15 old type Macks, all of which are over 8 years old.

The William Peters Brewing Company, of Union Hill, New Jersey, has 21 old machines between 7 and 13 years of age. All of them ran through last winter's storms without missing a trip.

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The Motor Truck and Chain Store

By JOHN B. WOODS

OF COURSE the chain store is too common an institution to call for discussion. We all know that it is successful and to all casual observers a fixture. The economy grocery is one development of the chain idea that appeals to the housewife because prices are lower on many staple items than elsewhere. This price feature appeals also to men-folk, and would be even more attractive if it were not for the fact that when we trade at an economy store we must carry our bundles home ourselves. They do not deliver. All of which brings us back to the original ostensible reason for the economy feature; you trade with this store and are paid for delivering your purchases by reductions in price. Inasmuch as delivery work is one of the great special missions of the motor vehicle it would seem, offhand, that the chain store with its economy idea should be a barren and disappointing field for motor truck distributers. But the fact is that some of the most carefully planned and successfully operated motor fleets in our cities are owned by the chain store people. For there is a big transportation problem involved in chain store merchandising, particularly with reference to such firms as handle groceries and perishable commodities.

IN fact it might be stated, with a reasonable foundation of truth, that the recent great and healthy growth of the chain idea in all of our big cities, has been made possible largely through the dependability of the motor truck as a freight carrier. The combined buying power of two or three score stores stated, with a reasonable foundation of truth, that the recent great and healthy growth of the chain idea in all of our big cities, has been made possible largely through the dependability of the motor truck as a freight carrier. The combined buying power of two or three score stores naturally gives the operators an advantage in the markets, but the problem would not be so easily handled from the shipping angle if there were no power wagons to distribute the merchandise among the members of the chain. Neighborhood stores have followed the trend of city population out into the country and to-day the economy type of shop is to be found in every little suburban settlement. Commuters dislike to carry their every-day provisions from the city out to their homes every night, and they also object to paying heavy delivery charges to city merchants. Therefore the neighborhood shop is coming into its own—if the zone committee does not kill it by crowding it back into town—and the item of delivery is handled by heavy motor trucks that bring goods out from depot and dock and warehouse and deposit them upon the economy store shelves, for the consumer to carry home in bag and basket.

Of course there really are two main transportation problems involved in this field. First, there is freighting in its simpler form; hauling the bulk lots from freight depot and ship-side to central warehouses for checking storage and rebilling to individual stores. Then there is the second stage of the journey from warehouse to these stores. When one considers the actual tonnage handled every week from the shelves of a live and well liked grocery store the conclusion naturally reached is that a score or fifty such markets must move an enormous quantity of goods. A more exact statement would be that a great volume of goods is handled, for the weight of miscellaneous foodstuffs varies from such heavy items as meat and flour to articles like cereals and spices with very little weight. But the volume is there, and on Saturday afternoons the dwellers in almost any suburban neighborhood will see the 3-tonners, with their wire-enclosed and bulging superstructures, roll up to the local stores in pairs to discharge the wherewithall for the Saturday afternoon rush. And, like as not the motor trucks will be back again Tuesday and Thursday with other loads. It is practicable and in fact quite often the practice to contract the freighting or depot-to-warehouse haul to some well equipped and reliable transfer outfit. There are no fine questions of routing, loading and schedule running to contend with, and therefore the problem is simply that of economical and dependable hauling, and the chain store people often are able to make advantageous contracts which relieve them of the task and leave their own transportation departments free to handle the distribution of goods to their own stores. In this type of service a skillful transportation man is a big asset, for not only is there involved the problem of sorting, loading, dispatching and delivering of goods, but human nature must be met in the form of store managers who jump at conclusions about the service they get as compared with their colleagues, and the mechanical side of the proposition must be kept in hand so that there always will be enough motor trucks in commission to handle the work. Then there is another human nature angle, the motor truck driver and his partner, the roustabout, all of whom must be kept in good spirits and on the jump. Of course it has been found by most of the bigger operators of chains that the most satisfactory way of handling their goods to the stores by using fleets of motor trucks owned or controlled entirely by their own organization.

THE Old Dutch Market, Incorporated, owning and operating a chain of some thirty-five meat markets, provision and grocery stores in the city of Washington, has built up a very broad-gage organization and by the use of large motor trucks has developed a very efficient transportation system in the face of many difficulties. The markets operated by these people are in a sense economy stores; that is, they do not deliver but make lower prices on meat and provisions than most of their competitors as a balancing attraction. The stores are to be found in the heart of the retail district and also out in the suburbs, so that both long and short hauls from warehouse to counter are necessary. The cheif difference between these stores and the usual chain grocery is the diversity of merchandise handled. And, of course, a variety of warehouses and plants are required. There is a general warehouse, a fruit and vegetable storage plant, a factory and bakery, and a meat supply located in Frederic, Maryland, a short day's motor truck run distant. Thus there are four kinds of produce which must be given different handling in order to furnish every store with superior goods. The general groceries can be distributed as needed by the different stores. Fruit and vegetables must be handled, as a rule, daily. Bakery products also are handled every day. And the meat is brought down from Frederic in specially designed machines four times per week, and in summer time the runs are made daily.

THIS Frederic run is unique for several reasons. Two big Mack motor trucks, equipped with bodies built on the refrigerator car plan, are used in rotation. The trip requires practically an entire working day, so one is sent to Frederic and spends the night there while the other is coming to Washington and spending the night at headquarters. On the Washington end of the run there is the job of delivering meat to all of the markets, which task consumes several hours. Close schedule is necessary to keep the meat coming down regularly. This company uses nine Mack machines altogether, hauling from depot to warehouses and delivering to the scattered markets about town. The tenth motor truck operated by them is an Autocar, with a special bread carrying body. Its job is moving bread from the bakery to the stores, and it is kept fairly busy at the task. Thus it may be noted that often special kinds of motor truck service are developed by the chain store people, ranging from the moving of flour and canned goods to the highly organized and necessarily hazardous—economically—handling of iced meats from the abattoir to the cutting block.

The Sanitary Grocery Company, Incorporated, with one hundred and thirty branches, has a widespread hauling problem. For these stores are located in small towns round about, even outside the District of Columbia, Of course the lines handled are restricted to staples, with limited fruits and vegetables of the less perishable kinds. But the large number of stores and the fact that the low prices fea-

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Fresh meat truck delivery to Old Dutch Market.

tured really move great quantities of goods of all kinds, spells a big transportation enterprise. These people contract the moving of freight to their warehouses and specialize with their own big motor trucks in the distribution to the unit stores. There are nine machines in the fleet, of half a dozen well known makes, including two G M C electrics. One feature of this fleet is the handling of loads in pairs, with three men to the two machines, thereby saving a roustabount's time.. Of course there are occasions when this plan can not be followed, but it is an economical scheme as the unloading time is not long enough to mean an expensive tie-up of the motor trucks. Two extremes of traffic troubles are met; the congested condition of downtown streets where many of the stores are located, and the rough and poorly paved roads of the outlying towns, with their heavy grades. Really these stores have solved one of the problems of the dwellers in the smaller and less favored suburbs. There is a type of suburb where people go to make their homes because lots and houses can be obtained cheaply. They do not ask for style in their homes or surroundings, but rather willfully avoid all ostentation because they know that it costs money. Such places always have been unfortunate in the matter of local stores, generally speaking. The dealers who do business in such places have been obliged to have their freight hauled to them over several miles of poor roads and the delivery has cost money; usually both steam and electric freight has been lacking or very costly because of necessary trucking from depot to store. Thus the shops have been poorly equipped and have charged high prices, thereby losing business which they should have obtained.

But the chain store company has come along with its great resources and its efficient trucking organization, and has opened up these stores on a new principle of low prices and good stocks. A manager for the Atlantic and Pacific Tea Company, whose stores stretch from coast to coast, was asked what his company would do without motor trucks. He pondered for a moment, while his mind ranged back to the days, not so long ago, when the A. & P. products were peddled about through the country in wagons drawn by horses. And then he gave his personal opinion that without motor trucks the present city chain development of his people could not have taken place; there are too many long hauls to small suburbs, and also too many congested and poorly paved streets for team hauling to keep the work of distribution in progress. And the trolley freight proposition is not well adapted to chain store merchandising, for there is not the close contact and team work that can be obtained when a company owns and operates its own power vehicles. Probably trolley freight lines could be adapted if there were great need but at the present time the motor truck has the field practically to itself.

During the outlaw rail strike the A. & P. machines saved the day for that company. Baltimore is distributing point for the Washington stores, and with the steam freight service out of gear the situation appeared bad for the chain in Washington. But the delivery vehicles were switched from their usual runs and sent to Baltimore for goods. The managers hired a large vacant lot in Washington and as fast as the foodstuffs arrived they were unloaded upon the vacant lot, checked, sorted, billed and shipped again by motor truck to the branches in town. Inasmuch as the A. & P. operate between sixty and seventy stores they are important users of motor truck transportation, and have their organization so well built that it is possible to meet any emergency such as the rail strike brought, without loss of a single sale because of lack of supplies on the shelves of the retail stores.

Piggly-Wiggly Stores, Incorporated, is another chain operator, newly opened in Washington. There are nineteen branches doing business in the city at present. Of course these stores go a step farther in the economy line and eliminate clerks by the use of the self-serve idea. Naturally it is to be expected that they would use motor trucks in their distribution, and such is the case. White motor trucks for the heavy grind of freight handling and Reos for the store to store runs constitute the equipment. Deliveries are made every weekday to the various branches. As new units are opened the freight haul becomes more and more burdensome, but the only necessary measures are the lengthening of routes and purchase of more gas-engine transportation. The motor truck has made good with Piggly-Wiggly in many cities all over the country.

One might lengthen the list to include practicaly all of the chain store firms; certainly all who have heavy volume of goods to move. The story of their recent great development is usually closely mixed with a story of well planned motor truck transportation. You can not sell goods unless you can get them, but if you run your own freight line you are independent of delivery and distribution worries to a great degree.

Small Heads Traffic Exports

The appointment of Herbert R. Small to the position of manager of the export division of the Traffic Motor Corporation, of St. Louis, has juse been announced by Harry H. Hawke, general sales manager of the company. Prior to his joining the Traffic organization, Mr. Small was assistant export manager of the Republic Motor Truck Company, of Alma, Michigan.

Truck delivery to chain unit in suburb.

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Caterpillar in Artillery Traction

By GEORGE W. DUNHAM,

Consulting Engineer, Militor Corporation, Jersey City, New Jersey

WITHOUT question, the greatest single advance in military engineering since the fourteenth century is that of motorization as developed during the recent war. From the first authentic record of the existence of the cannon, reference in which appears in the journal of the city of Ghent, in 1313, up to the highly refined field gun and cannon of 1914, the two fundamental ideas kept in mind by military engineers in designing cannon have been to secure the maximum range and hitting power consistent with the mobility limitations of horse transport.

In connection with the solution of a problem of this kind where the skill of the civilian engineer is bent toward solving a military engineering problem, there are two important relationships to keep in mind: (a) the influence of the present state of the art of automotive engineering upon the military problem, and (b) the influence of the development of the military problem upon the art itself. This latter conception in the case of artillery motorization is highly important.

Before approaching the technical factors involved in the problem of artillery motorization, it will be best to provide a perspective by roughly sketching the history of artillery motorization. As stated before, range and hitting power have been from time immemorial the two obviously desirable cannon characteristics. As one army has made progress in these two factors, others have taken steps to offset them, so that the various big-gun equipments of all armies among the major powers is at any one period a more or less understood and fixed proposition. It was only during this war, in which the strain was so great as to necessitate reinforcing men and animals by every means which engineering. science and machinery could provide, that substitutes were finally found for the animals which have, since the dawn of history, limited the mobility of armies. Only a moment's thought need be given to the fixed limitations of such animals; to their proneness to disease and vulnerability to climatic changes, gas and bombs, as compared with mechanical transportation; to the necessity of feeding them whether they are working or not; to the extreme care necessary to protect their health, and to the limitations in the length of their working period. Mechanical transport can be operated for long periods without rest, and any "sickness" can be cured within a few hours. The motorization of one 155-mm. howitzer regiment saves 1,440 horses and 400 men. One tractor for this howitzer is the equivalent of 10 horses, and yet it is so compact that when packed it occupies but 360 cubic feet. The horses in a regiment equipped with this caliber of gun consume daily 36,000 pounds of forage, whether the animals are at work or idle. The same regiment with its equipment motorized consumes but 29,000 pounds of fuel, oils and greases, when moving 50 miles, which represents a 2-days' march for such a command in a period of vigorous activity and 10 days of average war movement. Furthermore, it stops this consumption when idle and there is a corresponding saving in personnel. Tractors are far more easy to "camouflage" than horses. A shrapnel burst which will kill every horse with a gun will usually leave one of these armored tractors uninjured.

IN the extracts from the Westervelt report it will be noted that under the guidance of the Ordnance Department, through its tank, tractor and trailer division, the following general mechanical development with respect to artillery motor equipment had been accomplished at the date (May, 1919) this report was submitted:

(1) An efficient 10-ton artillery tractor for pulling heavy gun loads has been designed, tested and contracts for 2,800 have been placed, of which 933 are in France.
(2) An efficient 5-ton artillery tractor for pulling medium gun loads has been designed, tested and 4,000 are in production, of which 1,018 are in France.
(3) Efficient heavy mobile repair shops have been designed, tested and 17 shops of 2 sections each put into production, one of which is in operation in the occupied zone of Germany.
(4) An efficient artillery repair truck has been designed, tested and 420 of 1,332 being produced are in France.
(5) An efficient 3-ton 4-wheel-drive truck has been designed, tested and adopted as standard for use in the army.
(6) Caterpillar tracks to replace wheels on certain heavy guns.
(7) The following have been designed, built and are being tested:
  (a) 2½-ton tractor.
  (b) Heavy motorcycle for artillery.
  (c) Self-propelled gun mounts for various weapons.
  (d) Cargo-carrying caterpillars or tractor caissons.
  (e) Cargo caterpillar trailers.

It can be stated with respect to (1), (2) and (3) that the United States is far in advance of all other world powers.

While this paper deals primarily with the use of caterpillar traction in artillery motorization, it must be appreciated that many wheel types of vehicles, such as the mobile repair shop, various trailers, etc., are a necessary part of the artillery motorization requirements and are to-day in a stage of development equal to that of the caterpillar traction development.

Before taking up some of the more important principles of caterpillar application to military requirements, I wish to make it clear that this paper does not attempt to indicate the final solution, but states the problem as it is known to-day.

A more or less conventional caterpillar tractor construction is here described for the benefit of those who are not familiar with the type of vehicle. The engine and operating mechanism is carried in a chassis frame which is supported on a number of small wheels or truck rollers that in turn run on an endless belt or flexible track which acts as a medium for distributing the weight of the vehicle over the area of contact of the track with the ground. The track itself is supported on two larger rolls or sprockets, one of which is power actuated, thus making a vehicle construction having in effect elongated wheels, with a large wheel or track area in contact with the ground and resultant low unit pressure.

The unit pressure of the track in contact with the ground is much lower than could be obtained with the more simple wheel construction and is the prime reason why this type of vehicle is capable of better performance under extremely adverse ground conditions. Roughly speaking, the static unit pressure of an average-size man is about 6 to 8 pounds per square inch, this pressure increasing by 100 per centum when he lifts one foot to walk. That of a good-sized horse will be found to be about 16 to 18 pounds per square inch, staticly and more than twice that in action.

THE general military specifications for vehicles of the caterpillar type state that for the future the unit pressure is soft ground with 5-inch penetration shall not exceed 5 pounds per square inch, a condition which can very easily be met.

There is another condition, however, that enters into the problem where the the tractor is used for drawbar purposes. The drawbar reaction increases the pressure on the rear truck rollers to such an extent that the rear springs are compressed, allowing the rear sprocket to come closer to, or even to touch, the ground, thus increasing the contact area at the rear end.

While there are practical limitations in the length of a track due to the effect upon steering, it is very easy not to exceed 5 pounds per square inch pressure in soft ground, for after the maximum permissible length of track has been reached, if the ratio between it and the weight to be supported is too high the track can be made of such width that a maximum pressure of less than 3 pounds per square inch can be obtained, providing that the slight additional weight is permissible. Taking all the factors into consideration, 4 to 5 pounds per square inch pressure is generally satisfactory and is easily obtained.

When low unit pressure is known to be desirable, the question immediately arises as to why the large end sprockets can not be lowered so as to bring the entire track from center to center of these sprockets in contact with the ground at all times.

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This would be desirable and is practically the result obtained in soft ground, but on hard surfaces, the laying down and picking up of the track shoes under these conditions creates a mechanical vibration that becomes objectionable at high speed. Even with a very short-pitch track-link, the same condition holds good, whether the track-link is picked up and laid down by the sprocket engaging with the track-link pin, or whether the track rolls around a drum like a belt.

For agricultural purposes, slow speed, over soft going is the usual requirement, but for military and industrial purposes, a possible high speed, approximately 12 m. p. h. or more, is desired. This requirement somewhat complicates the problem, in that such items as unsprung weight, proper spacing of truck rollers, suitable length of track-links, track tension release, etc., assume increased importance.

Track tension release is accomplished in several ways, but in theory should the track clog up in such a way as to cause a foreign substance of considerable bulk to pass between the truck rollers or the sprockets and the track, some means must be provided to enable the track-supporting mechanism to yield, thus relieving the enormous strain which otherwise is liable to do severe damage.

IT is well understood that there is a point at the bottom of a rolling wheel which is momentarily stationary, but it is rather difficult to visualize this fact. This condition is exaggerated in the case of the caterpillar track, as the lower part of the track is stationary with respect to the ground for a considerable period of time while the top part moves at twice the speed of the vehicle.

A caterpillar vehicle is usually steered by making one track operate faster than the other or by stopping one track entirely and driving with the other. The most extreme condition is, of course, where one track is stopped and the other side driven.

Without taking time for mathematical proof, it may be stated that for best results the length of the track for tractors should not be more than one and one-half times the tread, or the center to center distance between the tracks. For tanks and other self-propelled vehicles, a ratio of 2 to 1 is permissible.

The ideal proportioning of a caterpillar track can be stated as follows: The shortest possible track shoe to facilitate its being picked up and laid down, the largest possible diameter of truck rollers to negotiate the uneven surface of the track better and reduce rotational speed. The spacing of these rollers should be about equal to the length of the track shoe. This distance should not be exactly equal but varied so that no two rollers will pass over a joint in the track at the same time. These conditions are impossible to meet ideally, as are most other problems in connection with automotive work, so, as is usual in such cases, the solution is reached through compromise, using a little longer track-link pitch and a somewhat smaller diameter of truck rollers. A combination which will operate most satisfactorily to all intents and purposes is one in which the truck rollers are spaced on a center distance of one and one-half times the length of a track-link, the variation of spacing, however, being maintained to avoid any number of rollers passing over track joints at the same time.

A caterpillar track may be likened to that of a railroad made up of very short rails but differs from it in that the rails are located as to position by the wheels of the vehicle instead of being secured to the roadbed. This, coupled with the necessity of what might be termed a positive tractive ability, the driving mechanism, the picking up and laying down of the rails or links, and the necessity of a greater number of smaller wheels on account of the shortness of the rails and the absence of the supporting ties on a graded roadbed, introduce a number of new problems, the more important of which can be listed as follows:

(1) The track material should be easily obtainable, tough and strong to resist wear and rough usage.
(2) The track design should lend itself to economical production and assume such form as to readily clean itself of stones and mud.
(3) Intelligent reduction of weight of the track-link perceptibly increases the life of the link.
(4) The link joints should be made with pins of ample size to require the minimum of lubrication, if any, and to resist the driving loads and stresses caused by the tendency of the track to bend laterally in turning and in negotiating sidehills and rough going.
(5) The joints should be arranged so as to avoid any "nut-cracker effect. The opening and closing of any part of the joint, as the track works back and forth, tends to accumulate and crush small stones and dirt, seriously increasing the stressing of the working parts.
(6) The joint in the track rail between surfaces on which the truck rollers operate should be staggered or arranged so as to minimize shocks between the track and the rollers.
(7) A reasonable amount of stock and sufficient clearance must be provided to allow for wear on the track rail, due to the action of the truck rollers.
(8) It is advisable to load the track near its outer edges rather than at the center, to avoid a side-cocking or twisting action, resulting in undue loading of the track-link pins. This is apparently best accomplished to-day by the use of a double row of truck rollers. Attempts to compensate the track show that ball joints or hinged connections have not met with much success, owing to clogging up and increased weight.
(9) The proper shape or form for the surface which comes in contact with the ground is of great importance, especially for military purposes. It should be arranged so that it will not damage good roads and still make the application of cleats or grousers unnecessary for ordinary soft going. Where grousers are required for maximum performance, they should be applicable with the minimum expenditure of time and effort. Some form of easily-applied calks are necessary for negotiating ice.
(10) The track drive, necessarily positive, is usually accomplished after the fashion of a block or roller chain and sprocket. Here again care must be used to avoid clogging up with foreign matter, and provision made that the mechanism will clean itself to as great an extent as possible.

The caterpillar track-link is a study in itself, about which much can be written. Although in its present state, when made of suitable material and properly designed, it functions most satisfactorily, in long and severe service it presents a very interesting problem, one worthy of the best efforts of the automotive engineer.

Considerable energy is being expended in the development of a combination wheel and caterpillar-tracked vehicle for military purposes; the wheels for high speed and the caterpillar to enable greater load carrying. The results to date are most gratifying, but I can not help but feel that the ultimate answer for greater speed ranges for heavy-duty purposes will be in a purely caterpillar vehicle with light track shoes, a very small amount of unsprung weight, embodying the use of a considerable quantity of rubber or some other cushioning medium in connection with the rolling members and track.

A military caterpillar vehicle, either for drawbar or load-carrying purposes, should be provided with a four-speed gearbox. The first speed should be very low and give high torque; the second should provide a rate of travel from about 2½ to 3½ m. p. h. at the governed engine speed to harmonize with the rate of travel of a marching column; the third speed which should be from 7 to 8 m. p. h., is to be used as a general traveling speed where there are no special restrictions. This third speed is the maximum rate at which it is considered good practice, in the present state of the art, for caterpillar equipment, and especially the pieces which they now haul, to travel over long distances. An emergency speed of 12 m. p. h., or better, is desirable for short dashes, as for example, where it is necessary to cross quickly places that are exposed to enemy fire, to bring up reinforcements, etc.

I am glad to note a tendency in motor truck and tractor construction toward lower first speeds. There are still too many who do not appreciate the remarkable advantages of this and its possibilities.

FOR satisfactory performance, a low emergency speed, giving high pulling power, is essential in any heavy-duty vehicle, for military or industrial purposes, regardless of whether it is a wheel or caterpillar type. Given a vehicle construction with sufficient area of ground contact to negotiate soft terrain, the problem becomes one of providing means for virtually gearing the tractive members to the ground surface. While the caterpillar is rapidly adaptable in this respect, as it permits the engaging of a larger number of cleats or grousers with the surface of the ground at one time, the tractive effort of the mechanism depends largely on the shearing strength of the soil in contact with the tractive members and immediately back of it. To obtain the best results, we are, therefore, confronted with the problem of using, to the best advantage, such strength as is to be found in this particular area of soil. As with any other material, the soil can be safely stressed to a higher degree if the load is applied gradually and uniformly. Careful investigation over a long period of time proves this statement, and it is found that with a very low gear ratio, both wheel and caterpillar types of vehicle have less breakage, require less area in contact with the ground and develop a greater drawbar pull for a given weight. In visualizing this emergency low speed for a military or any other class of heavy-duty vehicle, it should not be looked upon as a means of getting to the destination quickly but rather a provision which will prevent the vehicle being stalled under extreme conditions.

(*Continued on page 53.*)

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Fageol Company Locates Branch Factory in Ohio

CLEVELAND IS SITE OF NEW PLANT

The Fageol Compound Truck, which for the past three years has been built in Oakland, California, is now being manufactured also in Cleveland, Ohio, in order to meet the demand that has been coming to the California plant from motor truck buyers of the East and Middle West. The Fageol organization has for several years been convinced that the motor truck of the future must be capable of a wider range of operation. The following description of the Fageol motor truck is their solution of the problem.

The 7-speed compound transmission gives the machine a range of power declared by its makers to be 91 per centum greater than is possible with the conventional type of transmission, as well as 36 per centum more road speed, without in the least increasing the speed of the engine. The Fageol transmission is in appearance quite the same as the conventional type of 4-speed transmission, having exactly the same number of gears, shafts, etc.; yet this transmission provides five speeds forward and two reverse.

The extra speeds or gear ratios of the Fageol are obtained through a very simple device developed and perfected by F. R. Fageol, and the engineering department of the Fageol company. This device makes it possible to run the counter-shaft of the ordinary transmission at two speeds instead of one. The fifth forward, or high, is an over-gear which, while not increasing the number of engine revolutions per minute, gives the machine 36 per centum more road speed than a motor truck containing a transmission of standard design, thus reducing the gas consumption per mile. The first speed forward in the Fageol is an extra low gear which gives the motor truck 91 per centum more pulling power than a machine fitted with a transmission of standard design.

The range of power and speed made possible by the Fageol compound transmission has been found desirable by motor truck owners on the Pacific Coast where are found the most exacting traffic conditions in America. There, a successful motor truck must be able to haul a full load up 25 to 30 per centum grades over all kinds of mountain roads. It must be capable of withstanding the rapid transition from summer heat to a freezing temperature to compensate for lowered efficiency due to high altitude—25 per centum at 7,000 feet—it must have a reserve of power far beyond sea level requirements. These are the conditions which Fageol motor trucks were developed to meet.

In addition to its compound transmission, the Fageol embodies also, ease of control and comfort for the driver. The motor truck is said to steer with unusual ease. All operating levers such as throttle, brake and gear-shift, are most conveniently located and so constructed as to insure comfort when being maneuvered. The driver is relieved of the necessity of continuously oiling springs, etc., by the oil reservoir spring hangers which keep all of the springs on the machine lubricated. He has a very complete set of tools conveniently located in a substantially built tool box. He has a comfortable, well upholstered form fitting seat.

The Fageol Motor Company (of Ohio) as the new Cleveland company is known, is headed by F. R. Fageol, founder of the California company, who is largely responsible for the development of this machine as well as its success west of the Rockies, where it is one of the big leaders in the trucking field. Mr. Fageol attributes much of his success as a motor truck manufacturer to the fact that for a number of years he was a distributer of passenger cars and motor trucks. This experience, he declares, has been of inestimable help in enabling him to build a machine which meets the demand of the user and consequently is easily handled by the dealer. This same experience has taught him the value of factory co-operation with the dealer.

Associated with Mr. Fageol is Calvin Elb, who left the management of the Denver branch of the Willys-Overland Company, to assume the position of vice-president in charge of sales for the Fageol Company (of Ohio). Mr. Fageol has brought with him from California, I. H. Crow, who has been the superintendent of machine shop production for the Oakland plant, Major S. E. Hutton, secretary and treasurer of the new company, and A. E. Jurs, general superintendent of production. Webb Jay of Vaceum tank fame, is a director and vice president of the company.

Ford Makes 129,188 Trucks

Records of the Ford Motor Company, whose fiscal year ended July 31, show that 988,871 passenger cars and motor trucks were produced together with 78,006 tractors. The total of motor trucks was 129,188.

In the State of New York at the end of the fiscal year June 30, 1920, there were registered 22,572 motor 'buses. In New York City there were registered 9,136 'buses.

Order Cancellations Not Many, Says U. S. Chamber of Commerce

WASHINGTON, Aug. 25.—Most cancellations of orders are largely due either directly or indirectly to chaotic conditions arising from war times, according to a report on a survey of the manufacturing field made by the Chamber of Commerce of the United States. The percentage reporting that customers have cancelled orders because of failure to recognize the sacredness of contract, and the legal force and responsibility of an order received and accepted in good faith was comparatively small.

There is danger, however, the report declares, that unless a definite stand is taken against any tendency to regard cancellation of orders as unimportant, and unless there is a cultivation of a general feeling that an order is to be considered more than a mere memorandum, this evil may assume serious proportions.

The investigation of cancellations was made by the Fabricated Production Department of the National Chamber in response to complaints from members that production was being interfered with, so much so, that plants having had sufficient orders to run for months, were curtailing their efforts or shutting down even though production of their product is below normal and stock in the hands of wholesalers and retailers is light. The complaints protested that the sacredness of the sale contract was being disregarded and that the buyer was willing to chance its legal enforcement.

To get at the bottom of the problem, inquiry was sent to 106 leading trade associations to learn the situation.

In analyzing replies it was found that the responsibility for many cancellations are chargeable in part to the seller as well as to the buyer. Some of the chief reasons for cancellations are as follows: Inability to make prompt delivery; over-stock; business declining; revision of production schedule; financial embarrassment. Some replies indicated also that the public will not buy at present prices.

Street-flushing Fageol owned and operated in Mexico City.

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500—2,000 (Nash) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	500 Pounds:																			
1	Pony	$320	Own	4	2¾x4-12.1			T	C, Own		Stromberg		Atwater-K			F, 3				1
	1,000 Pounds:																			
2	Belmont, A	1,150	G B & S-A	4	3¾x4½-22.5	S	Pierce	T	C. Modine	N	Zenith	G	B	Y	P, G B & S	S, 3	Grant-Lees, K	N	Sterling	2
4	Croce, 17	825	Wisconsin	4	3¾x5-16.9						Zenith		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			4
5	Dodge	935	Own	4	3¾x4½-24.2	FS		P	T		Stewart		B, Northeast		M	S, 3				5
6	Duryea, C	675			12.0	S	N				Kingston		M, Bosch							6
7	Seneca, M		Le Roi, C	4	3¾x4½-15.9	FS		T	C, Kuntz	N	Schebler	G	BM, Bosch	Y	P, Borg & B	S, 3	Warner, B	N	Universal	7
8	Vim, 29	1,355	Own	4	3¾x4½-15.6	FS	N	T	T, McCord	N	Zenith	G	B	Y	P, Own	S, 3	Own	N	Spicer	8
	1,200 Pounds:																			
9	Champion	1,100	Herschell-Spil	4	3¾x5-19.6	S	N	T	C, Jamestown	N	Zenith	G	B	N	P, Borg & B	S, 3	Grant-Lees	N		9
	1,500 Pounds:																			
10	Atlas	1,260		4	3¾x5-19.6	S		T	C	N		G	B	N	P, Borg & B	S, 3		N		10
11	Bethlehem, K		Own	4	3¾x5-19.6	F	N	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Spicer	11
12	Conetsoga, 12	1,850	Continental, N	4	3¾x5-19.6	FS		T	C, Fedders	N	Stromberg	G	M, Simms	Y	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	12
13	Dispatch, G	1,200	Wisconsin	4	3¾x5-22.5	F		T			Rayfield		M, Bosch			4				13
15	Elmira, C	500	Perkins	4	3¾x4-15.6		N	T	C, Bush		Zenith		Atwater-K		C, Own	S, 2	Own		Own	15
16	Geneva, 1		Beaver	2	5½x5½-22.1		N				Schebler		M, Simms		P, Warner	P, 2				16
17	GMC, 16		Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	17
18	International, H	1,850	Own	4	3¾x5½-19.6	FS	Own	P	T, Long, McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	18
19	Kearns, H	1,400	Hers'l-Spil 7000	4	3¾x5-19.6	FS	N	T	C, G & O	N	Zenith	G	B	Y	P, Borg & B	S, 3	Grant Lees, K	N	Peters	19
20	Kissel, General Delivery	2,175	Own	4	3¾x5½-24.0	S	Pierce	P	T, Sparks-W	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	20
21	Old Hickory, M	995	Lycoming	4	3¾x5-16.9		N	T	C, Candler				Connecticut	Y	C, Lycoming	S, 3	Grant-Lees		Thermoid	21
22	Oldsmobile, Ecomony	1,500	Own	4	3 11/16x5½-21.7	F	N	P	C, Own	N	Zenith	G	B	Y	C	S, 3	Warner	N	Spicer	22
23	Patriot, Revere	1,785	Continental	4	3¾x5-22.5	S	N	T	C, B & W	N	Stromberg	G	B	Y	P, Borg & B	S, 3	Covert, MA	N	Thermoid	23
24	Rainier, R11	1,850	Continental N	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	24
25	Reo, F	* 1,385	Own	4	4¼x4½-27.2	FS	N	P	T, Own	N	Johnson	G	B	Y	M, Own	S, 3	Own	N	Own	25
26	Stewart, 11	1,350	Le Roi, 2C	4	3¾x4½-15.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	Y	P, Borg & B	S, 3	Durston 02500B	N	Hartford	26
27	Texan	1,200	G B & S	4	4¼x—28.9	F					Carter		M, Delco		M, G B & S	S, 3	Grant-Lees			27
28	Triangle, AA	1,600	Herschell-Spil, 4	4	3¾x5-16.9	S	N	T	T, Perfex	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU¾	N	Detroit	28
29	Watson, 21		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, G & O	N	Johnson	G	B	Y	M, Brown-L	S, 3	Brown-L, 35	N	M & E	29
30	White, 15	2,400	Own	4	3¾x5½-22.5	FS	N	P	C	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	30
30a	Winther, Deliv'y Spec'l		Herschell-Spil	4	3¾x5-19.6	F		T	T		Stromberg	G	B	Y	M, Warner	S, 3	Warner		Peters	30a
	2,000 Pounds:																			
31	Acason, R	2,400	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	C, National	Y	Marvel	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N	Blood	31
32	Acme, B	2,175	Continental, N	4	3¾x5-22.5	FS	Duplex	T	C, G and O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 3	Cotta, BUC	N	Blood	32
33	All-American	1,795	Herschell-Spil	4	3¾x5-19.6	FS	Pharo	T	C, Standard		Stromberg		M, Simms		M, Detlaff	I, 3	Cotta		Universal	33
34	Apex, C	1,745	Buda, RU	4	3¾x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	B, Auto-Lite	N	M, Fuller	S, 3	Fuller, TU¾	N	Detroit	34
35	Atco, IG10	1,875	Buda, WU	4	3¾x5½-22.5	F	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	Y	Hartford	35
36	Belmont, B	1,950	G B & S, AA	4	3¾x5-22.5	S	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	P, G B & S	S, 3	Grant-Lees, 515	N	Sterling	36
37	Bessemer, G	1,825	Continental, N	4	3¾x5-19.6	S	N	T	C, Ideal	N	Zenith	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	37
38	Briscoe, T34	1,550	Own	4	3¾x5-18.2	F	N	T	T, Perfex	Y	Buick	G	Connecticut	Y	C, Own	S, 3	Own		Universal	38
40	Chicago, C1	2,200	Hercules, CU2	4	3¾x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	40
41	Clydesdale, 32C	2,375	Continental, N	4	3¾x5½-22.5	S	Own	T	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	41
42	Collier, 18		Continental	4	3¾x5-19.6		Monarch	P	T, Long		Zenith		M, Eisemann		M	S, 3	Fuller			42
43	Columbia, F	1,750	Continental, N	4	3¾x5-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, B	N	Spicer	43
44	Commerce, E	1,855	Continental, N	4	3¾x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	44
45	Conestoga, 20	2 100	Continental, N	4	3¾x5-19.6	FS		T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU¾	N	Sterling	45
46	Corbitt, E	2,200	Continental, N	4	3¾x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	46
48	Day-Elder, A	2,100	Continental, N	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	48
49	Denby, 12	1,950	Continental, N	4	3¾x5-19.6	F	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	49
50	Diehl, A	1,575	Continental, N	4	3¾x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Simms	N	P, Borg & B	S, 3	Durston, 02800		Hartford	50
51	Famous, B10	1,690	Continental	4	3¾x5-19.6		Monarch	T	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	51
52	Federal, SD	2 600	Continental, J-4	4	3¾x5-22.5	F	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Own	N	Peters	52
53	Ford, T	550	Own	4	3¾x4-22.5	FS	N	T	T, Own	N	Kingston	G	M, Own	N	M, Own	P, 2	Own	N	Own	53
54	Fulton			4	3¾x5-19.6			T						Y	P, Borg & B	3				54
55	Gabriel, C	2,000	Buda	4	4¼x5½-28.9		N	P	C, G & O		Rayfield		M, Bosch		P, Borg & B	S, 3	Brown-Lipe		Spicer	55
56	Gary, F	2,100	Buda, WU	4	3¾x5-22.5	F	Pierce	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Blood	56
57	Giant, 15	1,950	Continental, N	4	3¾x5-22.5	FS	N	T	C, Ideal	N	Schebler	GK	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	57
58	GMC, 16		Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	58
59	Hahn, C	1,375	Continental, N	4	3¾x5-19.6	FS			T, Chicago		Stromberg		M, Eisemann		M, Detroit	S, 3	Detroit			59
60	Hal-Fur, C	2,000	Buda	4	4x5-25.6		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	60
61	Higrade, A18	2,100	Continental, N	4	3¾x5-19.6	FS	Simplex		C, Perfex		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller			61
62	Hoover, 15B	1,435	Continental, N	4	3¾x5-19.6	FS		T	C, Candler		Schebler		M, Splitdorf		M, Fuller	S, 3	Fuller			62
63	Independent (Ohio), F	1,685	Continental	4	3¾x5-19.6		Monarch	T	T, National		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	63
64	International, F	2,050	Own	4	3¾x5½-19.6	FS	Own	P	T, Long, McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	64
65	Jones, 31A	1,395	Continental, N	4	3¾x5-19.6	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Arvac	65
66	Kleiber, AA	2,600	Continental, C4	4	3¾x5½-22.5	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	66
67	Maccar, S1	2,400	Continental, J4	4	3¾x5-22.5	F	N	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L, 30	S, 3	Brown-L, 30	N	Spicer	67
68	Menominee, Hurryton		Continental, N	4	3¾x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1	N	Spicer	68
69	Myers, 60	1,545	Lycoming	4	3¾x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	M, Mechanics	S, 3	Mechanics	N	Universal	69
70	Napoleon, 9		Victory	4	3¾x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	B	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	70
71	Nash, 2018	1,895	Own	4	3¾x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 3	Detroit, C	N	Own	71

* Without seat.

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TRUCK SPECIFICATIONS — 500—2,000 (Nash)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
1	C, Own			2, R		E,	R, Own	½, ½	Tuthill			L	Own		W, Prudden	90	28x3p-28x3p			1
2	B, Flint	Y	B	2, R	9½, 9½	C, E	P	½, ½	Mather	7, 8	36¾x1¼-50x2½	L	Lavine	36, 0	W, E & O.	113	31x4p-31x4p	2,200	45, 75	2
4	B, Timken			2, R		C, E	P									108	32x4-32x4			4
5	B			2, R					Detroit						W	114	33x4p-33x4p			5
6				2, R		E,	P	C, T							W	86	36x3½p-36x3½p			6
7	B, Peru, 3050		B	2, R	9½, 8½	E, C	P	½, C		6, 9	36x1¾-51x2	L	Ditweiler		W	108	30x3½p-30x3½p			7
8	W, Sheldon, W500	Y	W	2, R	11 , 10½	E, E	P	½, ½	Shelden	8, 7	38x2-50x2	L	C.A.S.	30, 10	W, Hoopes	108	31x4p-31x4p	2,175	40, 70	8
9	B	Y	B	2, R	10 , 10	C, E	P	½, ½		7, 8	36x2-50x2	L			W	114	32x4p-32x4p	1,900	50, 65	9
10	B	Y		2, R		C, E	P	½, ½		8, 10	36x2-46x2	L	C. A. S.		W	118	32x4p-32x4p			10
11	B, Std Pts, 3070	Y	B	2, R	10 , 12	C, E	P, Detroit	½, ½	Mather	7, 9	36x2-50x2½	L	Ross.	48, 0	W, Wayne	125	34x4½p-35x5p	2,660	—, 80	11
12	I, Torbensen, OX2	Y	B	2, R	9¾, 10½	C, E	P, Savage	½, ½	Iron City	7, 9	36x2-48x2¼	L	C.A.S.	44, 0	W, E & O.	124	32x4½p-32x4½p	2,800	50, 60	12
13	I			2, R				½, ½	Tuthill						W	120	34x4p-34x4p			13
15	B, Own			2, R		E, E	R, Own	½, ½	Tuthill			L	Own			104	28x3p-28x3p			15
16	C, Sheldon			2, R				½, ½	Sheldon						W	96	34x2-36x2½			16
17	B, Own	N	B	2, R	10¾, 8¾	C, E	P, Smith	½, ½	Detroit	8, 11	38x2½-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940	50, 67	17
18	I, Own		B	2, R	10½, 11½	E, E	P	½, ½		8, 10	41x2½-54x2½	L	Own		W	115	36x3-36x3½	2,900	50, 64	18
19	I, Torbensen, OX2L	Y	S	2, R	12, 13	E, C	P	½, ½	Mather	6, 9	36x2-50x2	L	Lavine		W, E & O.	118	32x4½p-32x4½p	2,200	65, 80	19
20	W, Own	Y	B	2, R	9¾, 10	E, E	P, Smith	½, ½	Mather	8, 10	36x2-50x2½	L	Jacox	50, 0	W, Prudden	135	34x4½p-34x4½p	2,900	52, 68	20
21	B, Salisbury			2, R		C, E	R, Own	½, ½	Spring Perch			L	C.A.S.		W, Salisbury	112	33x4p-33x4p			21
22	I, Torbensen, OX2	Y	W	2, R	10¾, 12	C, E	P, Smith	½, ½	Perfection	7, 10	37x2-50x2½	L	Jacox	46, 0	W	128	35x5p-35x5p	2,580	55, 75	22
23	W, Empire, B	Y	B	2, R	13½, 12	E, E	P, Detroit	½, ½	Cooper	7, 12	38x2½-50x2½	L	C.A.S.	43, 4	W, Bimel	128	35x5p-35x5p	2,800	42, 58	23
24	W, Timken 6352	Y	B	2, R	10 , 10½	E, E	P, Parish	½, ½	Perfection	8, 9	38x2-50x2½	L	Lavine		W, Schwarz	125	34x4½p-34x4½p	2,400	75, 75	24
25	B, Own	N	B	2, R	11¾, 9¾	C, E	P, Own	½, ½	Penn		38x2-40x2½	L	Own	44, 0	W	128	34x4½p-34x4½p	2,615	43½, 62½	25
26	I, Clark, AS	Y	B	2, R	10 , 10	C, C	P, Hydraulic	½, ½	Detroit	6, 9	37¾x2-48¾x2½	L	C.A.S.	42, 0	W, Wayne	110	32x4p-32x4p	2,190	53, 66⅔	26
27	B, Salisbury			2, R		E, E		½, ½							W	115	33x4p-33x4p			27
28	I, Clark, AS	Y	B	2, R		C, C	R, Mason	½, ½	Detroit	7, 10	42x2-54x2½	L	Gemmer		W, Hayes	115	35x5p-35x5p	2,600	60, 80	28
29	W, Empire, B	Y	B	2, R	10¾, 11	E, E	P, Parish	½, ½	Sheldon	8, 8	40x2½-50x2½	L	Lavine		W, Hoopes	128	34x4½p-34x4½p			29
30	B, Own	N	B	2, R	9¼, 9	C, E	P	½, ½				L	Own	50, 4	W	133½	34x4½p-34x4½p	2,960	54, 70	30
30a	I			2, R		C, C	R	½, ½				L			W	135	34x4½p-35x5p			30a
31	W, Timken, 6352	Y	W	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	8, 12	40x2½-50x2½	L	Ross		W, Bimel	142	36x3½-36x5	3,650	—, 73	31
32	W, Timken, 6352	Y	B	2, R	9 , 9¼	E, E	P	½, ½	Detroit	7, 11	38x2½-52x2½	L	Ross	54, 0	W, Bimel	130	34x3½-34x5	3,200	50, 70	32
33	I, Torbensen		W, Powrlok	2, R		C, E	P, Detroit	½, ½	Detroit	9, 13	38x2-54x2½	L	Lavine		W	130	32x4-32x4			33
34	I, Torbensen	Y	W, Powrlok	2, R	10¼, 11½	C, E	R	½, ½	Detroit	8, 11	36x2-52¼x2½	L	Lavine		W, Bimel	130	33x4p-32x3½	2,870	—, 66	34
35	I	Y		2, R				½, ½			40x2½-50x2½	L	Ross		W	132	34x4½p-36x6p			35
36	I, Clark	N	B	2, R	12 , 12	C, E	R, Savage	½, ½	Mather	7, 11	40x2½-52¼x2½	L	Lavine	44, 0	W, E & O.	144	34x4½p-36x5	3,200	50, 75	36
37	I, Torbensen, A	Y	B	2, R	11 , 11¾	C, E	P	½, ½	Perfection	8, 10	39x2½-52x2½	L	Ross	54, 0	W, Schwarz	124	34x3-34x4	2,910	47, 60	37
38	I, Russel	Y	B	2, R	9½, 9½	C, E	P, Parish	½, ½	Alloy	7, 11	38x2½-52x2½	L	Lavine	45, 0	W, Hayes	121	33x4-34x3½	2,958		38
40	W, Timken, 6460	Y	B	2, R	10½, 11	E, E	R, Own	¼, ¼	Mather	8, 9	40x2½-54x3	L	Gemmer		W, Standard	132	36x3-36x4	3,800	60, 75	40
41	W, Std Pts, 602	N	B	2, R	11, 10	E, E	P, Parish & B	½, ½	Perfection	9, 7	36x2½-52x3	L	Ross		W, Bimel	144	34x3½-34x5	3,500	51, 62	41
42	W			2, R		E, E	P	½, ½					Ross			140	34x4-34x5			42
43	I, Russel, PI300	Y	B	2, R		C, E	R, Own	½, ½	Perfection	8, 10	38x2½-48x3	L	Own		W, St. Mary	120	34x3½-34x4	3,300		43
44	I, Torbensen, A	Y	B	2, R	10 , 11½	C, E	P, Detroit	½, ½	Detroit	8, 10	36x2½-50x3	L	Jacox	46, 0	W, Bimel	126	34x3½-34x4	2,900		44
45	W, Wis., 800D	Y	W	2, R	10½, 9	E, E	R, Own	½, ½	Iron City	8, 10	36x2¼-48x2½	L	Ross	50, 0	W, E & O.	128	34x3½-34x5	3,400	50, 65	45
46	W, Sheldon	Y	W	2, R		E, E	R, Own	½, ½	Mather	8, 10	38x2½-50x2½	L	Ross		W, Bimel	130	34x3½-34x4		70, 70	46
48	W, Sheldon, W1500	Y	B	2, R	10, 9¼	E, E	P, Savage	½, ½	Iron City	8, 12	40x2½-54x2½	L	Gemmer	46, 6	W, Jones	128	34x3½-34x4	3,250	50, 70	48
49	I, Russel, P	Y	B	2, R	10, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	43½x2½-48x2½	L	Ross	54, 0	W, Hayes	124	35x5p-36x6p	2,770	51, 73	49
50	I, Torbensen OX2L	Y	W	2, R	10, 12	C, C		½, ½	Rowland	8, 12	34½x2½-48x2½	L	Jacox	18, 0	W, Schwarz	115	34x4½p-35x5p	2,400	—, 90	50
51	I, Clark			2, R		C, C	P, Savage	½, ½	Sheldon			L	Ross		W, Bimel	120	36x3½-36x4			51
52	W, Timken, 6352	N	B	2, R	13 , 12	E, E	P	½, ½	Mather	7, 8	40x2½-52x2½	L	Gemmer	46, 9	S, Detroit	132	35x5p-36x6p	3,600	55, 70	52
53	W, Own	N	W	2, R	10¾, 8½	C, E	P, Parish & B	½, ½†, ½††	Own	7, 9	31⅝x1½-16½x3	L	Own	46, 0	W	124	30x3p-32x3½	1,465		53
54	I			2, R		C, C	P								W					54
55	W, Timken			2, R		E, E	P, Parish	½, ½	Merrill			L	Gemmer		W, Standard	136	35x5p-35x5p			55
56	W, Timken, 6352	Y	W	2, R	12½, 11½	E, E	P	½, ½	Tuthill	8, 11	40x2½-52x2½	L	Ross	42, 0	W, Prudden	130	36x3½-36x4	3,200	50, 20	56
57	W, Sheldon, W1500	Y	B	2, R	13 , 9½	E, E	P, Hydraulic	½, ½	Mather	6, 9	38x2-48x2½	R	Jacox		W, Wayne	130	34x3½-34x5	2,950	50, 68	57
58	B, Own	N	B	2, R	10¾, 8¾	E, E	P	½, ½	Detroit	8, 11	38x2½-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940	50, 67	58
59	I, Torbensen			2, R			P, Parish	½, ½	Delaney				Lavine		W	127	34x3-34x4			59
60	W, Timken			2, R		E, E	P, Parish & B	½, ½	Spring Perch			L	Gemmer		W, Standard	136	35x5p-35x5p			60
61	W, Sheldon			2, R		E, E	P, Own	½, ½	Perfection				Lavine		W, Prudden	115	35x5-35x5			61
62	W, Sheldon			2, R		E, E	P, Detroit	½, ½	Sheldon				Lavine		W	120	32x4-33x4½			62
63	W, Chicago			2, R		E, E	P, Parish & B	½, ½	Iron City			L	Ross		W, Wayne	128	34x3½-34x4			63
64	I, Own		B	2, R	10½, 11½	E, E	P	½, ½		10, 12	40¾x2½-54x2½	L	Own		W	128	36x3½-36x4	3,000	50, 64	64
65	I, Russel, O	Y	S	2, R	11½, 11½	C, E	P, Hydraulic	½, ½	Champion	9, 11	37x2½-51½x2½	L	C.A.S.	40, 0	W, Prudden	130	34x3-34x4	3,400	20, 80	65
66	W, Timken, 6460	Y	W	2, R	9 , 9	E, E	R	½, ½	Betts	7, 11	44x2½-52x3	R	Ross		W, W't'rh'se	130	34x3½-34x5	4,300	50, 75	66
67	W, Timken, 6352	N	B	2, R		E, E	P, Parish	½, ½	Merrill	7, 10	40x2-52x2½	L	Ross		W, Schwarz	138	34x3½-34x5	3,500	47, 70	67
68	W, Timken, 6460	N	B	2, R		E, E	R	½, ½	Tuthill	9, 12	39x2½-50x2¼	L	Ross		W, Standard	130	34x3½-34x4	3,600		68
69	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	7, 8	36x2-50x3	L	C.A.S.		W, E & O.	130	34x2½-34x4	2,850	50, 75	69
70	I, Clark, AS	N	B	2, R	14 , 14	C, C	R, Own	½, ½	Mather	8, 10	35x2-46x2¼	L	Lavine	48, 0	W, Royer	133	35x5p-35x5p	3,200	50, 65	70
71	I, Clark, 1	Y	W	2, R	9½, 9¼	C, C	P, Own	½, ½	Alloy	10, 12	37⅞x2¼-52x2½	L	Jacox	47, 0	W, Auto	130	34x3-34x4	3,400	44, 67½	71

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2,000 (National)—3,000 (Kearns) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	2,000 Pds.—Con.																			
72	National, FA	.....	Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C,McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	72
73	Noble, A20	.....	Buda	4	3¾x5½-22.5	...	Pierce	P	T, Chicago	Y	Stromberg	Y	M, Eisemann	...	M, Fuller	S, 3	Fuller	...	M & E	73
74	Ogden, A1	.....	Continental, N.	4	3¾x5-22.5	S	Pierce	T	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Acme	74
75	Palmer	1,585	Continental, N.	4	3¾x5-22.5	FS	Pierce	P	C, Fedders	...	Stromberg	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	...	75
76	Rainier, R9	2,050	Continental, N.	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	76
77	Republic, 10	.....	Continental, N.	4	3¾x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	77
78	Royal	2,400	Wisconsin	4	3¾x5-16.9	...	Monarch	P	T, Kells	...	Stromberg	...	M, Bosch	...	P, Borg & B	I, 3	Own	...	...	78
79	Sandow, G	2,295	Continental, N.	4	3¾x5-19.5	S	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	79
80	Service, 220	2,415	Buda, RU	4	3¾x5½-19.6	FS	N	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Arvac	80
81	Signal, F	2,750	Continental, C4.	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	81
82	Southern, 10	1,875	Buda, RU	4	3¾x5½-19.6	FS	Pierce	P	T, Standard	N	Zenith	...	M, Bosch	N	P, Borg & B	S, 4	Fuller	N	Spicer	82
83	Standard, 56	.....	Continental, N.	4	3¾x5-22.5	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	83
84	Stewart, 12	1,655	Continental, N.	4	3¾x5-19.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Durston, 02800	N	Hartford	84
85	Superior, D	1,800	Continental, N.	4	3¾x5-22.5	F	Pierce	T	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	Y	Arvac	85
86	Transport 20	1,850	Continental, N.	4	3¾x5-22.5	FS	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	86
87	Traylor, B	2,075	Buda, WU	4	3¾x5-22.5	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N	...	87
88	Vim, 22	2 195	Hercules	4	3¾x5½-22.5	F	N	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	88
88a	White Hickory, E	2,450	Continental, N.	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	M & E	88a
88b	Wichita, K	2,300	Own	4	3¾x5-19.6	S	N	T	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	88b
89	Wilcox, A	.....	Buda, QU	4	3¾x5½-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	...	89
90	Witt-Will, N	2,000	Continental	4	3¾x5-22.5	...	Pierce	P	C, Bremer	...	Zenith	...	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	...	Spicer	90
	2,500 Pounds:																			
91	Garford, 25	2,090	.....	4	3¾x5½-22.5	S	Monarch	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M	S, 3	.....	N	...	91
92	Hahn, C	1,950	Continental C4.	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago	...	Stromberg	...	M, Bosch	...	M, Brown-L	S, 3	Brown-L	...	...	92
93	Indiana, 12	2,425	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, G1	N	Acme	93
94	Koehler, C	1,985	Hers'l-Spil. 7000.	4	3¾x5-19.6	F	Simplex	T	C, Gordon	Y	Zenith	G	M, Eisemann	N	P, Mechanics	S, 3	Mechanics, LU	N	Kinsler-B	94
95	Old Hickory, W	2.175	Continental, N.	4	3¾x5-22.5	FS	Pierce	T	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Blood	95
95a	Oneida, A9	2.350	.....	4	3¼x5¼-22.5	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3	.....	N	Peters	95a
	3,000 Pounds:																			
97	Acason, RB	2,650	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	C, National	Y	Marvel	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	97
98	Ace, C	2,750	Buda, WU	4	3¾x5½-22.5	F	Pierce	T	C, Modine	Y	Schebler	G	B, Westingh'e	Y	M, M & E	I, 3	Cotta, AA	N	M & E	98
99	Acme, F	2,475	Continental, J4.	4	3¾x5-22.5	F	Duplex	T	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 3	Cotta, BUC	N	Blood	99
99a	Aetna	2,775	Wisc., CAU	4	3¾x5½-22.5	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, A	N	Spicer	99a
99b	All-American	2 195	Herschell-Spill'n	4	3¾x5-19.6	FS	.....	...	.....	...	Stromberg	...	M, Simms	...	M	I, 4	Cotta	...	...	99b
100	Apex, D	1,915	Buda, RU	4	3¾x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	Auto-Lite	N	M, Fuller	I, 4	Fuller, TU¾	N	Detroit	100
100a	Available, H1½	2,550	Hercules, CU3	4	4x5½-25.6	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	I, 4	Cotta, A	N	M & E	100a
101	Beck, A	1,750	Continental	4	3¾x5-22.5	S	Pierce	T	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	Y	Blood	101
102	Bell	.....	Buda, CTU	4	3¾x5½-22.5	F	Duplex	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit DX	Y	Universal	102
103	Bessemer, H2	2,445	Continental, N.	4	3¾x5-22.5	S	Pierce	T	C, Standard	N	Zenith	G	M, Bosch	N	P, Borg & B	S, 3	Brown-L, 35	N	Arvac	103
104	Bethlehem, G	.....	Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Universal	104
105	Brockway, S2	2,250	Continental, N.	4	3¾x5-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	105
105a	Capitol, G1½	2.750	Wisconsin	4	3¾x5-22.5	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	Y	M, Detlaff	I, 4	Cotta, AU	N	Thermoid	105a
106	Chicago, C1½	2,750	Hercules, CU2	4	3¾x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	106
107	Clydesdale, 42C	2,750	Continental, N.	4	4x5½-25.6	S	Own	T	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	107
108	Collier, 19	.....	Continental	4	3¾x5-22.5	...	Monarch	P	.....	...	Zenith	...	M, Eisemann	...	M, Fuller	S, 3	Fuller	...	...	108
109	Comet, 1-T-2	1,950	Lycoming	4	3¾x5-19.6	S	N	T	C, Standard	Y	Carter	G	B, Dyneto	Y	P, Borg & B	S, 3	Muncie, T25	Y	Arvac	109
110	Commerce, EP	2,255	Continental, N.	4	3¾x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	110
111	Concord, A	2,350	Buda	4	3¾x5½-22.5	...	Monarch	P	T, Bush	...	Zenith	...	M, Eisemann	...	M, Brown-L	S, 3	Brown-Lipe	...	Spicer	111
112	Corbitt, D	2,600	Continental, N.	4	3¾x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	112
113	Dart, S	2,250	Buda, WU	4	3¾x5½-22.5	F	Pierce	T	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	Y	Spicer	113
114	Day-Elder, B	2,300	Continental, N.	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	114
115	Dearborn, F	2,180	Continental, N.	4	3¾x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	115
116	Defiance, D	.....	Own	4	3¾x5-22.5	...	N	P	C, Perfex	...	Stromberg	...	.....	Y	P, Borg & B	S, 3	Grant-Lees	...	...	116
117	Dependable, C	2.150	Buda, CTU	4	3¾x5½-22.5	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 3	Fuller LTU	N	Acme	117
118	Diamond T, T	2,800	Dia. T Design.	4	3¾x5½-22.5	F	Unit Mot.	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 3	Covert	N	Sn'd & Sp.	118
118a	Douglas, G	1,975	Weidely	4	3¾x5½-22.5	F	.....	P	T, Own	...	Schebler	...	M, Eisemann	...	P, Borg & B	S, 3	Grant-Lees	...	Arvac	118a
119	Duplex, A	2,775	Hinkley, HAA	4	4x5½-25.6	FS	N	P	T, Modine	N	Stromberg	G	B	Y	M, Covert	S, 3	Covert, MUC	Y	Peters	119
120	Erie	.....	.....	4	4¼x5½-27.2	...	Pierce	T	.....	...	Stromberg	...	M, Bosch	...	M	4	.....	...	...	120
121	Fageol	.....	Lycoming, K	4	3¾x5-19.6	S	N	P	C, Modine	N	Zenith	DG	M, Dixie	N	P, Borg & B	S, 5	Own	Y	Detroit	121
122	Federal, TE	2.825	Continental, C4.	4	4¼x5½-27.2	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit	N	Spicer	122
123	Forschler, AX	2,375	Continental	4	3¾x5-19.6	...	Duplex	P	T, Own	...	Zenith	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	Own	123
124	Gary, GT	2,550	Buda, TU	4	4x5½-25.6	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Blood	124
125	Giant, 15	2,425	Continental, N.	4	3¾x5-22.5	FS	N	T	C, Ideal	N	Schebler	G,K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	125
126	GMC, 31A	.....	.....	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	126
127	Graham Brothers	2,495	Continental, N.	4	3¾x5-22.5	FS	Monarch	T	T, Long	N	Stromberg	...	M, Eisemann	...	M, Fuller	S, 3	Fuller	N	Hartford	127
128	Gram m-B'nst'n, 15 (int.)	2 250	Continental, N.	4	3¾x5-22.5	FS	N	T	T, Own	N	Stromberg	G	B, Northeast	N	M, Fuller	S, 3	Fuller	N	Own	128
129	Gram m-B'nst'n, 65 (w'm)	2,775	Continental, N.	4	3¾x5-22.5	FS	N	T	T, Own	Y	Stromberg	G	B, Northeast	N	M, Fuller	I, 3	Own	N	Own	129
131	Grant, 17	.....	Continental, N.	4	3¾x5-22.5	FS	Pierce	T	C, Fedders	N	.....	G	M, Splitdorf	Y	M, Brown-L	S, 4	Brown-L, 35	N	...	131
132	Harvey, WEA	2,550	Buda	4	4¼x5½-27.2	...	Monarch	P	T, Chicago	...	Zenith	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	Arvac	132
133	Hawkeye, K	2,150	Buda	4	3¾x5½-22.5	...	Simplex	P	T, Ideal	...	Zenith	...	M, Eisemann	...	M, Fuller	S, 3	Fuller	...	Hartford	133
134	Huffman, C (int.)	1,695	Continental	4	3¾x5-22.5	F	.....	T	C	...	Zenith	...	M, Dixie	...	M, Fuller	S, 3	Fuller	...	...	134
135	Huffman, B (worm)	1,895	Continental	4	3¾x5-22.5	F	.....	T	C	...	Zenith	...	B, Northeast	...	M, Fuller	S, 3	Fuller	...	...	135
136	Hurlburt, A	2,850	Buda, IU	4	4x5½-25.6	FS	Duplex	P	T, Own	...	Flechter	...	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	...	...	136
137	Independent (Iowa)	1,890	Continental, N.	4	3¾x5-22.5	FS	.....	...	T, Chicago	...	Stromberg	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	...	137
139	International, K	2,400	Own	4	3¾x5½-19.6	FS	Own	P	T, Long, McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	139
140	Jumbo, 15	.....	Buda, CTU	4	3¾x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast	Y	M, Fuller	S, 3	Fuller, LTU-S	Y	Arvac	140
141	Kalamazoo, G	.....	Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	141
142	Kearns, N	2.000	Hers'l-Spill. 7000	4	3¾x5-19.6	FS	Pierce	T	B, Bush	N	Zenith	G	M, Berling	N	P, Borg & B	S, 3	Grant-Lees, 515	Y	Peters	142

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TRUCK SPECIFICATIONS

2,000 (National)—3,000 (Kearns)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
72	W, Timken, 6352..	Y	W	2, R	10½, 10½	E, E	P	½, ½	Coghlin	8, 10	40x2½-52x2½	L	Ross	34, 0	W, Hayes	136	34x3½-34x3½	3,350	.....	72
73	W, Sheldon	.....	.....	2, R	.....	E, E	P, Slick-Knox	½, ½	SpringPerch	.....	.....	L	Lavine	.....	W, Bimel	144	36x3½-36x4	3,920	.....	73
74	W, Timken, 6460..	Y	S	2, R	10 , 10	E, E	P, Garden City	C, C	Tuthill	8, 10	38x2½-50x2½	L	Gemmer	.....	W, Standard	136	36x3½-36x4	3,400	—, 70	74
75	I, Torbensen	.....	.....	2, R	.....	.....	P, Parish & B	.....	Champion	.....	.....	.....	Ross	.....	W	132	34x3½x34x4	.....	.....	75
76	W, Sheldon, W1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 13	38x2-50x3½	L	Lavine	.....	W, Schwars	125	32x3½-32x4	2,750	75, 75	76
77	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Detroit	½, ½	Mather	7, 11	39x2½-52½x2½	L	Jacox	.....	W	124	34x3-34x4	2,925	.....	77
78	W, Timken	.....	.....	2, R	.....	E, E	R, Own	.....	Merrill	.....	.....	.....	Ross	.....	W	128	34x4-34x5	.....	.....	78
79	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage	½, ½	Garden City	7, 10	36x2½-52x2½	L	Ross	48, 0	W, Standard	120	34x3½-34x5	3,300	20, 70	79
80	W, Timken, 6456..	Y	B	2, R	9½, 9	E, E	P	½, ½	Mather	8, 9	40x2½-50x2½	L	Ross	42, 0	W, Bimel	137	34x3½-34x5	3,470	—, 70	80
81	W, Timken, 6460..	N	B	2, R	11 , 11	E, E	P, Savage	½, ½	Detroit	10, 11	44x2½-56x3	L	Ross	53, 0	W, Hayes	144	34x3½-36x5	4,395	—, 70	81
82	W, Sheldon	.....	W	2, R	10 , 11	.....	P, Parish & B	.....	Mather	.....	38x2½-51x2½	L	Ross	.....	W, Royer	130	35x3p-35x5	.....	.....	82
83	W, Timken, 6352..	Y	B	2, R	10 , 11½	E, E	P, Parish	½, ½	Perfection	.....	39½x2½-53½x2½	L	Ross	.....	W	134	34x3½-34x4	3,220	58, 71	83
84	I, Clark, 1D	Y	B	2, R	10 , 10	C, C	P	½, ½	Detroit	8, 11	38½x2-50x2½	L	Ross	45, 0	W, Wayne	130	34x3½-34x4	2,820	53, 70	84
85	I, Torbensen, A...	Y	B	2, R	11 , 11½	C, E	P	½, ½	Tuthill	8, 11	37½x2-44x2½	L	C.A.S	36, 0	W, Schwars	124	34x4½p-34x5p	2,950	75, —	85
86	I, Clark, 1D	Y	B	2, R	10½, 11½	C, E	P, Detroit	½, ½	Detroit	8, 10	39x2½-52½x2½	L	Jacox	.....	W	130	35x5p-36x6p	3,100	50, 70	86
87	W, Sheldon, W1501	Y	W	2, R	.....	E, E	P, Savage	½, ½	.....	.....	36x2½-48x2½	L	Ross	.....	W, Schwars	132	34x3½-34x5	3,500	.....	87
88	W, Sheldon, W1501	Y	W	2, R	12½, 11	E, E	P	½, ½	Sheldon	9, 12	40x2½-54x2½	L	Jacox	35, 0	W, Hoopes	125	35x5p-35x5p	3,350	40, 70	88
88a	W, Timken, 6352..	Y	W	2, R	11½, 11½	E, E	P, Parish & B	½, ½	Sheldon	8, 10	38x2-52x2½	L	Lavine	44, 0	W, Bimel	121	35x5p-35x5p	3,150	.....	88a
88b	W, Sheldon	.....	W	2, R	10½, 10½	E, E	P, Own	½, ½	Detroit	.....	40x2½-50x3	R	Ross	.....	W	144	36x3-36x4	3,650	.....	88b
89	W, Wis., 800D	Y	B	2, R	.....	E, E	P	½, ½	Sheldon	9, 11	36x2½-50x2½	L	Gemmer	.....	I, Smith	130	35x5p-35x5p	3,900	25, 75	89
90	W, Timken	.....	.....	2, R	.....	E, E	P, Parish	½, ½	Delaney	.....	.....	L	Ross	.....	W, Archibald	120	36x3½-36x4	.....	.....	90
91	W	Y	B	2, R	.....	E, E	P	½, ½	.....	8, 8	42x2½-50x2½	L	Ross	50, 0	W	135	36x3½-36x4	3,900	.....	91
92	W, Timken	.....	.....	2, R	.....	.....	P, Parish	.....	Delaney	.....	.....	.....	Lavine	.....	.....	135	36x3½-36x5	.....	.....	92
93	W, Sheldon, W1501	N	B	2, R	10, 8½	E, E	R, Illinois	½, ½	Sheldon	8, 9	38x2-50x2½	L	Wohlrab	44, 0	W, Bimel	131	34x3½-34x5	4,100	55, 65	93
94	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Parish & B	½, ½	Mather	8, 13	38x2½-54x2½	L	Own	.....	W, Wayne	131	34x3-34x5	3,300	.....	94
95	W, Timken, 6453..	Y	W	2, R	10, 10	E, E	R, Own	½, ½	Standard	9, 11	40x2½-50x3	L	Lavine	43, 0	W, Standard	135	36x3½-36x4	3,450	40, 66	95
95a	W	Y	B	2, R	.....	E, E	P, Detroit	½, ½	Mather	8, 10	40x2½-54x3	L	Ross	.....	W	135	36x3½-36x5	4,350	60, 85	95a
97	W, Timken, 6460..	Y	W	2, R	11 , 11	E, E	P, Savage	½, ½	Detroit	8, 12	40x2½-50x2½	L	Ross	.....	W, Bimel	142	36x3½-36x6	3,800	—, 74	97
98	W, Timken, 6460..	Y	W	2, R	10 , 11	E, E	P, Parish & B	½, ½	Mather	9, 9	39½x2½-53½x3	L	Ross	.....	W, Schwars	144	36x6p-38x7p	4,750	50 80	98
99	W, Timken, 6460	Y	B	2, R	9 , 9½	E, E	P	½, ½	Detroit	8, 12	38x2½-52x2½	L	Ross	54, 0	W, Bimel	141	34x3½-34x5	3,700	50, 70	99
99a	W, Sheldon, W103	N	.....	2, R	.....	E, E	R	½, ½	Sheldon	9, 13	38x2½-52x3	L	Ross	.....	W	144	36x3½-36x5	.....	50, 70	99a
99b	I, Torbensen	.....	W, Powrlok	2, R	.....	E, E	P	½, ½	.....	10, 12	10x2½-51x2	.....	.....	.....	W	144	34x4-34x5	.....	.....	99b
100	I, Torbensen	Y	W, Powrlok	2, R	10½, 11½	C, E	R	½, ½	Detroit	8, 12	36x2-52½x2½	L	Lavine	.....	W, Bimel	130	32x3½-32x4	3,070	—, 66	100
100a	W, Wisconsin	N	B	2, R	9½, 9½	E, E	R, Own	½, ½	Tuthill	8, 10	40x2½-50x3	L	Ross	42, 0	W, St. Mary's	152	36x3½-36x5	4,000	55, 75	100a
101	I, Clark, 1B	N	B	2, R	14 , 13	C, E	P, Parish & B	½, ½	Higgins	7, 12	40x2½-52x2½	L	Lavine	48, 0	W, Bimel	132	35x5-35x5	2,800	30, 75	101
102	I, Russel	Y	B	2, R	12 , 13	C, E	R, Own	½, ½	Detroit	7, 12	40x2-54x2½	L	Gemmer	52, 0	W, Bimel	132	32x3½x32x4	3,500	50, 70	102
103	I, Torbensen, C	N	B	2, R	11 , 12	C, E	P	½, ½	Perfection	8, 11	39x2½-56x3	L	Ross	54, 0	W, Schwars	144	36x3½-36x5	3,600	53, 65	103
104	I, Russel, P1300	Y	B	2, R	10½, 11½	C, E	P, Detroit	½, ½	Mather	9, 10	40x2½-52½x3	L	Lavine	48, 0	W, Wayne	135	34x3½-34x5	3,520	—, 90	104
105	W, Sheldon, W1501	N	B	2, R	.....	E, E	P, Parish	½, ½	Sheldon	8, 10	39x2½-48x3	L	Gemmer	.....	W, Hoopes	140	36x3½-36x5	3,550	52, 74	105
105a	W, Wisc., 800F	Y	B	2, R	12½, 11	E, E	R	½, ½	SpringPerch	.....	41½x2½-54x2½	L	Ross	51, 0	W, Ames	144	35x5p-38x7p	4,600	55.85	105a
106	W, Timken, 6460..	Y	B	2, R	10½, 11	E, E	R	½, ½	Mather	8, 11	40x2½-54x3	L	Gemmer	.....	W, Standard	144	36x3½-36x5	3,900	60, 75	106
107	W, Timken, 6460..	N	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Perfection	9, 9	36x2½-52x3	L	Ross	.....	W, Bimel	146	36x3½-36x6	3,750	51, 78	107
108	W	.....	.....	2, R	.....	E, E	.....	½, ½	.....	.....	.....	.....	Ross	.....	.....	144	36x4-36x6	.....	.....	108
109	B, Standard, C	Y	B	2, R	10 , 12	C, E	P	½, ½	Marathon	7, 12	36½x2-50½x3	L	Gemmer	56, 0	W, Moline	130	33x4p-33x4	3,240	60, 70	109
110	I, Torbensen, A...	Y	B	2, R	11, 12½	C, E	P, Detroit	½, ½	Detroit	8, 11	36x2½-50x3	L	Jacox	50, 0	W, Bimel	134	36x6p-36x6p	3,200	—, 90	110
111	W, Timken	.....	.....	2, R	.....	E, E	P, Parish & B	½, ½	Spring Perch	.....	.....	L	Ross	.....	W, Crane	140	36x3½-36x5	.....	.....	111
112	W, Sheldon	Y	W	2, R	.....	E, E	R, Own	½, ½	Mather	9, 11	38x2½-50x2½	L	Ross	.....	W, Bimel	136	36x3½-36x5	.....	.....	112
113	W, Own	Y	B	2, R	10½, 10½	F, F	P, Savage	½, ½	Perfection	7, 11	37x2-54x2½	L	Ross	44, 0	W, Prudden	140	34x3½-34x6	3,300	50, 80	113
114	W, Sheldon, W1501	Y	B	2, R	10, 10	E, E	P, Savage	½, ½	Iron City	9, 13	40x2½-54x2½	L	Gemmer	51, 9	W, Jones	144	34x3½-34x5	3,500	50, 70	114
115	W, Chicago, C	Y	B	2, R	10, 12	E, E	P, Own	½, ½	Maremont	7, 9	35x2½-52x2½	L	Lavine	42, 0	W, Crane	126	34x4-34x5	3,280	50, 75	115
116	I, Torbensen	.....	.....	2, R	.....	E, E	P, Detroit	½, ½	Detroit	.....	.....	L	.....	.....	W, Crane	140	35x5-36x6	.....	.....	116
117	W, Wisc., 800H	Y	W	2, R	10, 10	E, E	P	½, ½	Perfection	9, 11	40x2½-48x2½	L	Ross	54, 0	W, Bimel	128	34x5-34x5	4,120	40, 70	117
118	W, Wisc., 800H	Y	W	2, R	.....	E, E	P, Smith	½, ½	Mather	8, 10	40x2½-53x2½	L	Gemmer	.....	W	144	36x3½-36x5	4,000	50, 90	118
118a	I, Torbensen	.....	.....	.....	.....	.....	.....	.....	Own	.....	.....	.....	Ross	.....	.....	127	34x3½-34x5	3,725	.....	118a
119	W, Sheldon	Y	B	2, R	11, 11½	E, E	P, Parish & B	½, ½	Penn	9, 9	39x2½-50x2½	L	Ross	.....	W, Prudden	145	35x5p-38x7p	.....	.....	119
120	W, Timken	.....	.....	2, R	.....	.....	P	.....	.....	.....	.....	.....	Ross	.....	.....	144	34x3½-36x5	.....	.....	120
121	W, Standard, 603	Y	B	2, R	10½, 10	E, E	R, Own	½, ½	Mather	8, 11	41x2½-56x3	L	Ross	.....	W, Prudden	136	34x3½-34x6	3,500	50, 70	121
122	W, Timken, 6560..	N	B	2, R	12½, 9	E, E	P	½, ½	Mather	9, 9	40x2½-54x3	L	Gemmer	46, 3	W, Auto	144	36x3½-36x5	4,250	56, 69	122
123	W, Sheldon	.....	.....	2, R	.....	E, E	R, Own	½, ½	Own	.....	.....	.....	Ross	.....	I, Smith	120	36x3½-36x5	.....	.....	123
124	W, Timken, 6460..	Y	W	2, R	12, 10½	E, E	P, Own	½, ½	Tuthill	9, 12	44x2½-52x3	L	Ross	42, 0	W, Prudden	142	36x3½-36x5	3,800	50, 20	124
125	W, Sheldon, W-1500	Y	B	2, R	13, 9½	E, E	P, Hydraulic	½, ½	Mather	6, 11	38x2-48x2½	R	Jacox	.....	W, Wayne	138	34x3½-34x5	3,600	55. 75	125
126	W, Timken, 6460..	N	B	2, R	10½, 9½	E, E	P, Smith	½, ½	Detroit	8, 10	36x2½-54x3	L	Jacox	51, 0	W	130	36x3½-36x5	4,205	55, 74	126
127	I, Torbensen	Y	B	2, R	11, 12½	C, C	P, Detroit	½, ½	Detroit	9, 12	42x2½-52x3	L	Lavine	48, 0	S, Disteel	133	35x5p-36x6p	2,950	.80	127
128	I, Clark	Y	B	2, R	11, 11	C, E	P, Own	½, ½	Perfection	10, 11	40x2½-52x2½	L	Ross	51, 0	W, Bimel	138	36x3½-36x5	3,800	69, 90½	128
129	W, Standard	Y	B	2, R	11,	E, E	P, Own	½, ½	Perfection	10, 11	40x2½-52x2½	L	Ross	51, 0	W, Bimel	138	36x3½-36x5	4,200	69, 90½	129
131	I, Torbensen, A...	Y	B	2, R	10, 10½	C, E	P	½, ½	Perfection	11, 12	42x2½-50x2½	L	Jacox	45, 0	W, Royer	140	35x5p-38x7p	3,450	47½, 67	131
132	W, Sheldon	.....	.....	.....	.....	E, E	P, Own	.....	Sheldon	.....	.....	L	Ross	.....	W, Schwars	128	34x3½-34x5	.....	.....	132
133	I, Clark	.....	.....	2, R	.....	C, E	R, Own	½, ½	Detroit	.....	.....	L	Ross	.....	W, Bimel	148½	34x3½-34x5	.....	.....	133
134	I, Torbensen	.....	.....	2, R	.....	E, C	P	½, ½	Perfection	.....	.....	.....	Lavine	.....	W	140	34x3½-34x5	.....	.....	134
135	W	.....	.....	2, R	.....	E, E	P	½, ½	Perfection	.....	.....	.....	Lavine	.....	W	140	34x3½-34x5	.....	.....	135
136	W, Hindley	.....	.....	2, R	.....	E, C	P, Savage	½, ½	Perfection	.....	.....	.....	Ross	.....	W, Wayne	148	34x4-34x5	.....	.....	136
137	I, Torbensen	.....	.....	2, R	.....	C, E	P	½, ½	.....	.....	.....	.....	Lavine	.....	W	135	34x3½-34x5	.....	.....	137
139	I, Own	.....	B	2, R	10½, 11½	E, E	P	½, ½	.....	10, 14	41½x2½-56x3	L	Own	.....	W	128	36x3½-36x5	3,400	50, 67	139
140	I, Clark, 1D	Y	B	2, R	11, 13½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	36x3½-36x5	3,600	50, 75	140
141	W, Wisc., 800F	N	W	2, R	9, 9½	E, E	R	½, ½	Sheldon	6, 11	40x2½-50x2½	L	Ross	51, 8	W, Bimel	144	36x4-36x5	5,080	—, 80	141
142	I, Torbensen, B...	Y	S	2, R	14, 11	E, E	P	½, ½	Mather	6, 9	42x2½-52x3	L	Lavine	.....	W, E & O	136	34x3½-34x6	3,620	68, 80	142

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3,000 (Kelly-Springfield)—4,000 (Collier) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	3,000 Pounds—Con.																			
143	Kelly-Sp'gf'd,K31.(oh'n)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Own	143
144	Kelly-Sp'gf'd,K32.(w'm)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Spicer	144
145	Kissel, General Utility	2,775	Own	4	3½x5½-24.0	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	145
146	Kleiber, A	3,100	Continental, C4	4	4½x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	146
147	K-Z	2,450	Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Thermoid	147
148	Larrabee, N		Continental, N	4	3¾x5-22.5	S	Simplex	T	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Universal	148
149	Macar, L	2,925	Continental, C4	4	4½x5½-27.2	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	149
150	Mack, AB(chain)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	150
151	Mack, AB(worm)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	151
152	Mapleleaf, AA		Hinkley, HAA400	4	4x5½-25.6	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LTU5	N	Blood	152
154	Master, JW	2,690	Buda, OU	4	4¼x5½-27.2	S	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Spicer	154
155	Maxwell	1,472	Own	4	3¾x4½-21.3	S		T	T, Own	N	Eagle	G	B	N	C, Own	S, 3	Own	N	Thermoid	155
156	Menominee, H		Continental, C4	4	3¾x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU2	N	Spicer	156
157	Moreland, 19B	2,930	Continental	4	4¼x5½-27.2	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	157
158	Myers, 80	1,875	Lycoming	4	3¼x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees	N	Universal	158
159	Napoleon, 11		Victory	4	3¾x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	B	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	159
160	National, GA		Waukesha, BUX	4	3½x5½-22.5	S	Waukesha	P	C, McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	160
161	Nelson & LeMoon, F1½		Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-L, 35		Thermoid	161
162	Noble, B30		Buda	4		FS	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU			162
163	Norwalk	1,750	Lycoming, K	4	3¼x5-19.6	FS	N		T, Chicago		Carter		B		P, Borg & B	S, 3	Grant-Lees, 515			163
164	O. K., K	2,450	Buda, ITU	4	4¼x5-32.4	FS	Pierce	T	T, R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, TU3		Hartford	164
165	Old Hickory, N	995	Lycoming, K	4	3¼x5-19.6			T	C, Standard		Carter		M, Connectic		C, Lycoming	S, 3	Grant-Lees			165
166	Old Reliable, A	2,350	Wisconsin, EU	4	4x5-25.6	F	N	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	166
166a	Orleans			4	4x5½-25.6	F		P	T	N	Master	G	M, Eisemann	N	M	I, 3	Cotta			166a
167	Packard, B	3,200	Own	4	4x5½-25.6	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Spicer-Th	167
168	Paige, 52-19		Hink'y, HAA400	4	4x5½-25.6	F	Hinkley	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L	N	Spicer	168
169	Patriot, Lincoln	2,450	Hinkley, HAA400	4	4x5½-25.6	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Fuller, G5	N	Thermoid	169
170	Rainier, R6	2,150	Continental, N	4	3¼x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	170
171	Reliance, A10	2,500	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU3	N	Peters	171
172	Republic, 11X		Continental, N	4	3¾x5-22.5	FS	Ruggles	P	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 3	Fuller, TU¾	N	Hartford	172
173	Reynolds, 3A	3,250	Hinkley	4	4x5½-26.5	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert	N	Thermoid	173
173a	Rowe, CW	2,800	Wisconsin	4	3¾x5-22.5	F	Simplex	P	—, Fedders		Zenith		M, Bosch			S, 4	Brown-L		Spicer	173a
174	Royal	2,800	Wisconsin	4	3¾x5-22.5		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			174
175	Sandow, CG	2,590	Continental, N	4	3¼x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	175
176	Schwarts, B2	2,175	Continental, J4	4	3¾x5-22.5	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	176
177	Selden, 1½A		Continental, N	4	3¾x5-22.5	S	Pierce	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S,	Brown-L, 30	N	Spicer	177
178	Service, 31 (solids)	2,985	Buda, IU	4	4x5½-25.6	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	178
179	Service, 36 (pneumatics)	3,415	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	179
180	Signal, H	2,925	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	180
181	Southern, 15		Continental, N	4	3¾x5-22.5	FS	Pierce	P	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	181
182	Sterling	3,200	Own	4	4x5½-25.6	F	Waukesha	P	T, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	182
183	Stewart, 9	2,250	Continental, N	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	183
184	Stoughton, B	2,350	Waukesha, BUX	4	3¾x5-22.5	F	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Thermoid	184
185	Sullivan, F	2,975	Buda, M	4	3¾x4½-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Bosch	N	C, Hartford	S, 3	Covert, GI	N	Hartford	185
186	Texan, TK	1,525	Lycoming	4	3¼x5-19.6	S	N	T	C, Own		Carter		B		P, Borg & B	S, 3	Muncie			186
187	Tiffin, GW	2,415	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 3	Fuller, GU3	Y	Peters	187
188	Tower, J	3,000	Continental, C4	4	4¼x5½-27.2	FS	N	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N		188
189	Transport, 30	2,250	Continental, N	4	3¾x5-22.5	FS	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Hartford	189
190	Traylor, C	2,875	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N		190
191	Triangle, A	2,185	Waukesha, BU4	4	3¾x5½-22.5	S	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	191
192	Ultimate, A		Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	192
193	United		Buda	4	3¾x5½-22.5						Stromberg				M	S, 3	Brown-Lipe			193
194	Universal, G		Buda	4	3¾x5-22.5		Monarch	P	T, Bremer		Zenith		M, Eisemann		P, Own	S, 3	Own			194
195	U. S., N*		Continental, N	4	3¾x5-22.5			P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	195
196	Velie, 46	1,925	Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Stromberg	G	M, Berling	N	P, Borg & B	S, 3	Durston 034000	N	Arvac	196
197	Victor (Mich.), A		Continental, N	4	3¾x5-22.5	F	N	T	Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	197
198	Watson, 20		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	T, R'me-T'r'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	198
199	White Hickory, H	2,750	Continental, N	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	199
200	Wichita, L	2,600	Waukesha, BX	4	3¾x5-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	200
201	Wilcox, B		Own	4	4¼x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		201
202	Wilson	2,450	Continental, N	4	3¾x5-22.5	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35		Thermoid	202
203	Winther, 39 (rear drive)	2,450	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	203
204	Winther, 430 (4-wh'l-dr)	2,850	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Peters	204
205	Wisconsin, B	1,750	Waukesha	4	3¼x5½-19.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			205
206	Witt-Will, N Special	2,150	Continental	4	3¾x5-22.5		Pierce	P	C, Bremer		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	206
207	Wolverine, C		Continental	4	3¾x5-22.5		Monarch	T	T, Long		Stromberg		M, Eisemann	Y	M, Fuller	S, 3	Fuller		Universal	207
	3,500 Pounds:																			
208	Air-O-Flex, C		Buda, CTU	4	3¾x5½-22.5	P	Duplex	F	T, Spirex	N	Stromberg	G	M, Splitdorf	Y	P, Borg & B	S, 4	Brown-L, 35	N	Thermoid	208
209	Oneida, B9	2,915		4	4x5-25.6	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3		N	Spicer	209
	4,000 Pounds:																			
210	Acme, A	3,050	Continental, C4	4	4¼x5½-27.2	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, RU	N	Blood	210
211	Atco, W20	2,875	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Hartford	211
212	Autocar, 21UF	2,300	Own	2	4¾x4½-18.0	S	N	P	T, Own	N	Stromberg	G	M, Bosch	N	P, Own	S, 3	Own	N	Spicer	212
214	Beck, C	2,350	Continental	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU3	Y	Blood	214
215	Belmont, C	2,550	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Sterling	215
216	Brinton, F	3,000	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Mayo	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50		Spicer	216
217	Collier, 20		Continental	4	4¼x5½-27.2		Monarch	P			Zenith		M, Eisemann		M, Fuller	S, 4	Fuller			217

* Model NW this load rating fitted with pneumatics.

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TRUCK SPECIFICATIONS

3,000 (Kelly-Springfield)—4,000 (Collier)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
143	C, Own	N	B	2, R	11¾, 10½	E, E	P	½, ½		10,11	40½x2½-43½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,590	50, 90	143
144	W, Own	N	B	2, R	11¾, 10⅝	E, E	P	½, ½		10 12	40½x2½-47½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,685	50, 90	144
145	W,Sheldon,W-1500	Y	W	2, R	12⅝, 11	E, E	P, Smith	½, ½	Mather	10,11	38x2½-50x2½	L	Jacox	50, 0	W, Prudden	152	36x3½-36x5	4,000	51½, 69	145
146	W, Sheldon, W-103	Y	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W,Waterh'se	143	36x3-36x6	4,900	50, 75	146
147	W, Timken, 6460	N	B	2, R	12½, 10¾	E, E	R, Own	½, ½	Tuthill	7, 9	40x2½-50x3	L	Lavine	30, 2	W, St. M'ry	134	36x3½-36x5	4,000		147
148	W,Sheldon,W-1500	Y	B	2, R	10½, 9¾	E, E	P, Savage	½, ½	Merrill	7, 9	38x2½-53x2½	L	Ross		W, Hoopes	130	34x3½-34x5	3,600	36, 88	148
149	W, Timken, 6460	N	B	2, R	10⅜, 10¾	E, E	P, Parish	½, ½	Merrill	7, 12	42x2½-54x2½	L	Ross		S, Dayton	150	36x4-36x6	4,300	—, 70	149
150	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½ ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x3½d	4,800	46, 67	150
151	W, Timken	Y	W	2, R	13¾, 9½	E, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x3½d	4,900	47, 69	151
152	W,Sheldon,W-103	Y	B	2, R	9, 9½	E, E	R, Own	½, ½	Sheldon		42x2½-50x3	L	Ross		W, Hayes	144	34x4-36x6	4,600	50, 70	152
154	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Detroit	8, 10	44x2-52x2½	L	Ross	42, 0	W, Prudden	142	34x3½-34x5	3,900	55, 78	154
155	W, Own	Y	W	2, R	13, 11	E, E	P	½, ½	Detroit	7, 12	38x2½-52x2½	L	Own	52, 2	W, Kelsey	124	32x3-32x4	2,550	50, 70	155
156	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	144	36x3½-36x5	4,000		156
157	W, Timken, 6456	N	W	2, R	10½, 8½	E, E	P	½, ½	U. S	6, 10	38x2½-48x3	L	Ross	50, 0	I, Smith	126	36x3½-36x5	4,150	50, 65	157
158	W ,Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	8, 9	36x2-50x3	L	C.A.S		W, E & O	144	34x3½-34x5	3,200	50, 75	158
159	I, Clark, 1D	N	B	2, R	14, 13	C, C	R, Own	½, ½	SpringPerch	9, 12	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-36x5p	3,400	50, 65	159
160	W, Timken, 6460	Y	W	2, R	10½, 9½	E, E	P	½, ½	Coghlin	7, 10	40x2½-52x3	L	Ross	48, 0	W, Hayes	140	34x4-34x5			160
161	W Timken, 6552	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x3½-36x6			161
162	W,Sheldon,W-103			2, R		E, E	P, Slick-Knox	½, ½	Tuthill				Lavine		W, Bimel	144	36x3½-36x5	4,680		162
163	W, Chicago, C			2, R		E, E	P, Own	½, ½	Standard				Lavine		W, E & O	130	34x3½-34x5			163
164	W, Wisconsin			2, R		E, E	P, Savage	½, ½	Tuthill				Ross		W, Bimel	146	36x3½-36x5			164
165	B, Salisbury			2, R		C, E	R, Detroit		Tuthill				Lavine		W, Bimel	112	33x4-33x4			165
166	W, Sheldon, W21	Y	W	2, R	11, 9¾	E, E	P	½, ½	Sheldon	9, 13	39x2½-54x3	R	Ross		W, Prudden	138	34x4-36x6	4,150	—, 90	166
166a	W	N		2, R		E, E	R	½, ½			40x2½-52x3		Ross		I, Smith	142	36x3½-36x5			166a
167	W, Own	N	8	2, R	9⅝, 9½	C, E	R, Own	½, ½		10, 11	41x2½-46x2½	L	Own	50, 0	W	144	34x3½-34x3½d	4,670	46, 67	167
168	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	9, 10	42x2½-52x3	L	Ross		I	140	34x3½-34x5	4,000	60, 75	168
169	W, Empire, N	Y	B	2, R	11, 11½	E, E	P, Detroit	½, ½	Cooper	8, 13	40x2½-52x2½	L	Ross	46, 6	W, Bimel	140	34x3½-34x5	3,900	45, 75	169
170	W,Sheldon,W-1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 14	38x2-50x2½	L	Lavine		W, Schwars	133	34x3-34x4	3,000	75, 75	170
171	E, Own	Y	W, Powrlok	2, R	10, 11½	E, E	P, Savage	½, ½	Sheldon	8, 11	36x2½-56x2½	L	Ross		W, Bimel	150	36x3½-36x5	4,500	35, 85	171
172	I, Torbensen, C2	Y	W, Powrlok	2, R		E, E	P, Detroit	½, ½	Mather	8, 15	39x2½-52½x2½	L	Jacox		W	144	34x4-34x6	3,300		172
173	W, Sheldon	Y	B	2, R	13½, 10¾	E, E	R, Standard	½, ½	Perfection		40x2½-54x2½	L	Lavine		I, Smith	140	36x3½-36x6			173
173a	W, Sheldon			2, R		E, E		½, ½	Sheldon				Ross		W, Hoopes	133	36x6p-36x6p	3,800	—, 62	173a
174	W, Timken			2, R		E, E	R, Own		Merrill				Ross		W	128½	34x4-34x5			174
175	W,Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage	½, ½	Garden City	7, 12	36x2½-52x2½	L	Ross	54, 0	W, Standard	135	34x3½-34x5	3,900	20, 70	175
176	I, Torbensen, B	Y	B	2, R	10, 11½	C, E	P, Parish	½, ½	Rowland	7, 13	38½x2½-54x3	L	Ross		W, Schwars	140	34x3½-34x5	3,600		176
177	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Perfection	10, 10	40x2½-50x2½	R	Lavine	48, 0	W	137½	34x3½-34x5	3,560	56, 75	177
178	W, Timken, 6460	Y	B	2, R	11½, 9½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	36x3½-36x6	4,850	—, 65	178
179	W, Timken, 6460	Y	B	2, R	11½, 10¾	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	35x5p-38x7p	4,900	—, 65	179
180	W, Timken, 6460	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	10, 11	44x2½-56x3	L	Ross	53, 0	W, Hayes	144	34x4-36x6	4,760	—, 73	180
181	W, Sheldon	Y	W	2, R			P, Parish & B		Mather		38x2½-54x2½	L	Ross		W, Royer	143	34x3½-34x5d			181
182	W, Timken, 6460	N	W	2, R	10½, 10½	E, E	P	½, ½	Mather	8, 10	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x3½-36x5	4,720	47, 91	182
183	I, Clark, 1D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	8, 11	41x2½-54x3	L	Ross	49, 0	W, Wayne	140	34x3½-34x5	3,440	56, 70	183
184	W,Sheldon,W-1501	N	W	2, R	11¾, 11	E, E	P, Smith	½, ½	Sheldon	9, 11	40x2½-50x2½	L	Lavine	51, 0	W, Bimel	140½	36x3½-36x5	3,800	49, 69	184
185	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	R, Own	½, ½	Merrill	9, 9	38x2-52x3	L	Ross	45, 0	W, Wayne	129	36x3-36x5	3,500	54, 68	185
186	W, Chicago			2, R		E, E	P, Parish & B	½, ½	Maremont				C.A.S		W	144	34x4p-34x5			186
187	W, Sheldon, W102	N	R	2, R	10, 12	E, E	P	½, ½	Kalamasoo	9, 11	40x2-48x2½	L	Ross	47,0	I, Smith	135	36x3½-36x5	3,650	40, 60	187
188	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		42x2½-52x2½	L	Ross		W, Royer	142	35x5p-38x7p	4,520	—, 75	188
189	I, Clark, 1D	Y	B	2, R	11½, 12½	C, E	P, Detroit	½, ½	Detroit	7, 10	40x2½-54x3	L	Jacox		W	140	35x5p-38x7p	3,450	50, 70	189
190	W, Sheldon, W103	Y	W	2, R		E, E	P, Savage	½, ½			38x2½-50x2½	L	Ross		W, Schwars	138	36x4-36x6	4,700		190
191	I, Clark, 1D	Y	W, Powrlok	2, R	9½, 10	C, C	R, Mason	½, ½	Detroit	9, 11	42½x2½-54x2½	L	Gemmer	47, 6	W, Royer	144	34x3½-34x6	3,750	60, 80	191
192	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P	½, ½	Sheldon	9, 13	39x2½-52x2½	L	Ross	47, 0	W	140	36x3-36x5	4,500	50, 70	192
193	I, Clark			2, R			P	½, ½				L			W	145	34x3½-34x5			193
194	W, Own			2, R		E, E	P	½, ½	Kalamasoo				Lavine		W	133	34x3½-34x5			194
195	I, Clark, 1D	Y	B	2, R	11, 12½	C, E	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwars	144	36x3½-36x5	3,800	47, 67	195
196	I, Torbensen, CT	Y	W, Powrlok	2, R	10½, 12	C, E	P, Dunbar	½, ½	Mather	8, 11	40x2½-54x3	L	Ross	46, 0	W, Bimel	133	36x3½-36x5	3,650	52½, 85	196
197	I, Clark	Y	B, W	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden	140	-x4—x5	3,250	80, 80	197
198	W, Empire, N	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Sheldon		40x2½-52x3	L	Lavine		W,Crane	144	36x3½-36x5			198
199	W, Timken, 6460	Y	W	2, R	10, 10	E, E	P, Parish & B	½, ½	Sheldon	8, 10	41½x2½-50x3	L	Ross	51, 0	W, Bimel	144	36x3½-36x5	3,750	54, 76	199
200	W, Sheldon	Y	W	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit		40x2½-50x3	R	Ross		W	144	36x3½-36x5	4,100		200
201	W, Wisc., 800E	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 10	40x2½-52x3	L	Own		I, Smith	144	36x4-36x5	4,600	25, 75	201
202	W, Timken, 6460	Y	B	2, R	10½, 10½	E, E	R	½, ½	Perfection	8, 12	38x2½-52x2½	L	Ross		W	140	36x3½-36x5	3,800		202
203	I, Clark, 1D	Y	B	2, R	10, 11½	C, C	R, Own	½, ½	Harvey	9, 12	40x2½-48x2½	R	Lavine	56, 0	I, Own	140	34x3½-34x5	3,600	40, 75	203
204	I, Clark, 1D	Y	B	4, FR	11½, 10½	C, C	R	½, ½	Harvey	9, 12	40x2½-48x2½	L	Lavine	58, 0	I, Own	132	32x4-32x4	4,100	30, 60	204
205	W, Sheldon			2, R		E, E	P, Smith						Lavine		W	136	34x3½-34x4			205
206	W, Timken			2, R		E, E	P, Parish	½, ½	Delaney			L	Ross		W,Arch'ld	120	36x3½-36x5			206
207	I, Russel			2, R		C, E	P, Parish & B	½, ½	Tuthill			L	Gemmer		W	140	34x3½-34x5			207
208	I, Russel, P1-300	N	B	2, R	15, 14	E, C	P					L	Ross		W	150	36x3½-36x5	4,000	40, 70	208
209	W	Y	B	2, R	10½, 10	E, E	P, Detroit	½, ½	Mather	9, 12	40x2½-56x3	L	Ross		W	144	36x3½-36x6	4,900	60, 85	209
210	W, Timken, 6560	Y	B	2, R	11¾, 9½	E, E	P	½, ½	Detroit	8, 12	40x2½-52x3	L	Ross	54, 0	W, Bimel	148	36x4-36x7	4,450	50, 70	210
211	W, Wisc., 800J	Y	B	2, R	12½, 10½	E, E	P, Parish & B	½, ½	Sheldon	9, 11	41x2½-52x3	L	Ross	61, 2	I, Smith	150	36x4-36x7	4,800	53, —	211
212	S, Own	Y	B	2, R		C, E	P	½, ½	T			R	Own		W	97		3,600		212
214	I, Clark, 2	N	S	2, R	14, 13	C, E	P, Parish & B	½, ½	Higgins	8,13	40x2½-52x3	L	Lavine	48, 0	W, Bimel	144	36x7-40x8	3,800	30, 75	214
215	I, Clark, 2	N	B	2, R	11, 11	C, E	R, Savage	½, ½	Mather	9, 12	40x2½-52½x3	L	Lavine	52, 0	S, Clark	154	36x4-36x7	4,000	50, 80	215
216	W, Timken, 6560	N	W	2, R	11½, 9½	E, E	R, Own	½, ½	Philadelphia	12, 14	44x2½-50x3	L	Ross	40, 0	W, Schwars	150	36x4-36x6	4,500	45, 70	216
217	W			2, R		E, E	R						Ross			152	36x4-36x7			217

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4,000 (Conestoga—Wolverine) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	4,000 Pounds—Con.																			
218	Conestoga, 30	2,700	Continental, N..	4	3¾x5-22.5	FS	Duplex	T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU3	N	Sterling	218
219	Day-Elder, D	2,750	Continental, C2.	4	4¼x5½-27.2	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, RUN3C.	N	Hartford	219
220	Dearborn, 48	2,590	Buda	4	3¾x5½-22.5	F	Simplex	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller	N	Hartford	220
221	Defiance, E		Own	4	3¾x5-22.5		N	P	C, Perfex		Stromberg			Y	P, Borg & B	S, 3	Grant-Lees			221
222	DeKalb, E2	2,250	Continental	4	4¼x5½-27.2		N	P	T, Jackson		Master		M, Eisemann		M, Fuller	S, 3	Fuller		Hartford	222
223	Denby, 134	2,450	Continental, N..	4	3¾x5-22.5	F	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	223
224	Diamond T, U	3,485	Dia. T Design..	4	4x5½-25.6	F	Unit Mot.	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 4	Covert	N	Spicer	224
225	Dorris, K4	3,400	Own	4	4¼x5½-28.9	F	Own	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Warner	S, 4	Warner, T53	N	Spicer	225
225a	Douglas, H (ink.)	2,650	Buda	4	4¼x5½-27.2	F	Pierce	P	T, Own		Schebler		M, Eisemann		M, Fuller	S, 3	Fuller		Arvac	225a
225b	Douglas, H (worm)	2,850	Buda	4	4¼x5½-27.2	F	Pierce	P	T, Own		Schebler		M, Eisemann		M, Fuller	S, 3	Fuller		Arvac	225b
225c	Eagle		Buda, CTU	4	3¾x5½-22.5	F		P	C	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert		M & E	225c
226	Erie		Continental, C2.	4	4¼x5½-27.2		Pierce		T		Stromberg		M, Bosch		M	S, 4				226
227	Fargo, P	2,250	Continental, N..	4	3¾x5-22.5	FS	Monarch	T	T, Own	N	Rayfield	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	227
228	Federal, UE	3,150	Continental, C4.	4	4¼x5½-27.2	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit	N	Spicer	228
229	Forschler, B	2,750	Continental	4	4¼x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 3	Fuller		Own	229
230	Fulton, C	2,350	Herschell-Spill..	4	3¾x5-19.6		Pierce	P	T, G & O		Carter		M, Simms	N	M, Covert	S, 3	Covert		Universal	230
231	Gabriel, E	3,250	Buda	4	4¼x5½-28.9		Duplex	P	C, G & O		Rayfield		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Spicer	231
232	Garford, 70H	3,190		4	4¼x5½-28.9	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		232
233	Giant, 16	3,050	Continental, C4.	4	4¼x5½-27.2	FS	Pierce	P	C, Own	Y	Schebler	G,K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	233
234	GMC, 41A		Continental, C2.	4	4¼x5½-27.2	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	234
235	Gramm-Bernstein, 20	3,275	Continental, C2.	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Stromberg	G	B, North East	N	M, Fuller	I, 4	Own	N	Own	235
237	Hall	2,875	Continental, C4.	4	4¼x5½-27.2	FS	Simplex	P	T, Long	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	237
238	Hendrickson	3,000	Buda, BU4R	4	4¼x5½-28.9	S		P	T, Chicago		Stromberg		M, Dixie		M, Fuller	S, 4	Fuller			238
239	Independent (Iowa), F..	2,290	Continental	4	4¼x5½-27.2		N	P	C, Chicago				M, Bosch	N	M, Fuller	S, 3	Fuller		Blood	239
240	Independent (Ohio), G..	2,300	Continental	4	4¼x5½-27.2		Monarch	P	T, Long		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	240
240a	Indiana, 20	3,140	Own	4	4¼x5½-27.2	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35	N	Acme	240a
241	International, G	2,800	Own	4	4x5-25.6	FS	Own	T	T, Long, McC	Y	Ensign	G	M, Dixie	N	M, Own	S, 3	Own	Y	Own	241
242	Jumbo, 20		Buda, CTU	4	3¾x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast	Y	M, Fuller	S, 3	Fuller, LTU8	Y	Arvac	242
243	Keldon, 19	2,885	Buda	4	4¼x5½-28.9		Waukesha	P	C, Eureka		Stromberg		M, Eisemann		P, Borg & B	S, 3	Covert		Acme	243
243a	Keystone, 40	1,795	Own	4	4x4½-25.6		Pierce	P	T, McCord		Zenith		M, Berling	N	M, Fuller	S, 3	Fuller		Spicer	243a
244	Kimball, B	3,675	Wisconsin, TU	4	4x6-25.6	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	244
246	Kleiber, BB	3,600	Continental, C4.	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	246
247	Lange, B	2,950	Continental	4	4¼x5½-27.2		Pierce	P	T, Own		Stromberg		M, Bosch	N	M, Hele-Shaw	I, 3	Own		M & E	247
247a	Luedinghaus, K	2,790	Waukesha, RU4R	4	4¼x5½-28.9	F	Waukesha	P	T, Own	N	Schebler	G	M, Splitdorf	N	P, Borg & B	S, 3	Detroit		Spicer	247a
248	Mack, AB (chain)	3,300	Own	4	4x5-25.6		S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	248
249	Mack, AB (worm)	3,300	Own	4	4x5-25.6		S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	249
250	Menominee, D		Continental, C4.	4	4¼x5½-27.2		S	Monarch	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	250
251	Midland, MT	3,000	Buda, HU	4	4¼x5½-28.9		F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S,	Fuller, JU2			251
252	Muskegon, 20	2,325	Continental	4	4¼x5½-27.2			Pierce	P	C, Mayo		Detroit		M, Eisemann	N	M, Fuller	S, 3	Fuller		Arvac	252
253	Mutual, 2A	3,375	Wisconsin, TAU.	4	4x6-25.6		F	Duplex	P	C, Perfex	N	Stromberg	G	M, Bosch	Y	M, Hele-Shaw	S, 4	Fuller, G5	N	Spicer	253
254	Nash, 3018	2,550	Own	4	3¾x5½-22.5		FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 4	Detroit, H36	N	Own	254
255	Nash, 4017 Quad	3,250	Buda, HU	4	4¼x5½-28.9		F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Own	N	Own	255
256	National, HA		Waukesha RU4K	4	4¼x5½-28.9		S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 35	N	Spicer	256
257	Netco, D	3,100	Continental, C4.	4	4¼x5½-27.2		S	N	P	T, R'me-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Hartford	257
258	Niles, (Pa.), E	2,800	Continental, C4.	4	4¼x5½-27.2		FS	Pierce	P	C, Modine	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, O		Blood	258
259	Noble, C40		Buda	4	4x5½-25.6			Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		M & E	259
260	Northway, B2	3,400	Own	4	4x6-25.6		FS	Pierce	P	C, G & O	Y	Stromberg	G	B	Y	M, Fuller	S, 4	Fuller, GU6	N	Spicer	260
262	Olympic, A	3,300	Continental, C4.	4	4¼x5½-27.2		FS	Monarch	P	T, Long		Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	262
263	Oshkosh, A	3,750	Hers'l-Spill. 7000	4	3¾x5-19.6		FS	Duplex	T	C, Own	N	Zenith	G	B	Y	M, Brown-L	S, 4	Brown-L, 35	Y	Peters	263
264	Packard, C	3,600	Own	4	4x5½-25.6		F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	264
265	Palmer	2,277	Continental, C4	4	4¼x5½-27.2		FS	Pierce	P	C, Fedders		Stromberg		M, Bosch		M, Fuller	S, 3	Fuller			265
267	Parker, F20	3,500	Wisconsin, TAU.	4	4x6-25.6		F	Monarch	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Fuller, G	N	Blood	267
268	Pierce-Arrow, X4	4,300	Own	4	4x5½-25.6		F	Own	P	T, Own	N	Own	G	M, Splitdorf	N	C, Own	S, 4	Own	N	Own	268
269	Pioneer, F	2,790	Continental	4	4¼x5½-27.2			Pierce	P	T, McCord		Stromberg		M, Eisemann	N	M, Brown-L	S, 4	Brown-L		Spicer	269
270	Power, B	2,950	Continental, C2	4	4¼x5½-27.2		FS	Pierce	P	C, Candler	N	Stromberg	G	M, Simms	N	M, Fuller	S, 4	Fuller		Universal	270
271	Rainier, R8	2,650	Continental, N..	4	3¾x5-22.5		FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 30	Y	Hartford	271
272	Rowe, CDW	3,300	Wisconsin	4	4x5-25.6		F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	272
273	Royal	3,200	Wisconsin	4	4x6-25.6			Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own	N		273
274	Sandow, I	2,775	Continental, N..	4	3¾x5-22.5		S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Fuller, TU¼		Spicer	274
275	Schacht		Buda, HU	4	4¼x5½-28.9		F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 4	Own	N	M & E	275
276	Shaw, M3	2,700	Continental, C4.	4	4¼x5½-27.2		FS	Pierce	P	T, Long		Zenith		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			276
277	Southern, 20		Buda, ITU	4	4x5½-25.6		FS	Pierce	P	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	277
279	Sterling	3,500	Own	4	4x5½-25.6		F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L 35	N	Spicer	279
280	Stewart, 7	2,875	Continental, C4.	4	4¼x5½-27.2		FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Hartford	280
281	Stoughton, D	2,800	Hercules, CU3.	4	4x5½-25.6		F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Thermoid	281
282	Sullivan, E	3,350	Buda, HTU	4	4¼x5½-28.9		S	N	P	T, Bush	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	282
283	Superior, E	2,750	Continental, C2	4	4¼x5½-27.2		F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Arvac	283
284	Traffic, C	1,495	Continental, N..	4	3¾x5-22.5		FS	N	P	C, Own	N	Carter	G	M, Bosch	N	M, Covert	S, 3	Covert, MU-T	N	Universal	284
285	Transport, 50	2,795	Continental, C2	4	4¼x5½-27.2		FS	Duplex	P	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	Hartford	285
286	Triangle, C	2,585	Waukesha, BU4	4	3¾x5½-22.5		S	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	286
287	Triumph, H	2,350	Buda, CTU	4	3¾x5½-22.5		F	Pierce	P	C, Modine	Y	Bennett	G	M, Dixie	N	P, Borg & B	I, 3	Cotta, AAU	N	Hartford	287
287a	U. S. N. C.		Continental, N.	4	3¾x5-22.5			N	P	T, Long	Y	Stromberg	G	M, Eismann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	287a
288	Universal, D		Own	4	4¼x5½-28.9			Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			288
289	Victor (Mich.), B		Continental, N..	4	3¾x5-22.5		F	N	P	C, Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	289
290	Vim, 22	3,150	Hercules	4	3¾x5½-22.5		F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	290
291	White, 20	3,300	Own	4	3¾x5½-22.5		FS	N	P	C	N	Own	G	M		P, Own	S, 4	Own	N	Own	291
292	Wichita, M	2,800	Waukesha, BX	4	3¾x5½-22.5		F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	292
293	Winther, 49	3,250	Wisconsin, EAU.	4	4x5-25.6		F	N	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	293
293a	Wolverine, D		Continental	4	3¾x5-22.5		FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller			293a

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TRUCK SPECIFICATIONS

4,000 (Conestoga—Wolverine)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
218	W, Wisc., 800C	Y	W	2, R	11, 10	E, E	R, Own	½, ½	Iron City	9, 12	40x2½-52x3	L	Ross	50, 0	W, E & O	138	36x4-36x4d	4,200	50, 70	218
219	W, Sheldon, W103	Y	B	2, R	11, 10⅜	E, E	P, Savage	½, ½	Iron City	10, 15	40x2½-54x2½	L	Gemmer	51, 9	W, Jones	144	36x4-36x7	4,250	50, 70	219
220	W, Chicago, C4	Y	B	2, R	10½, 12	E, E	R, Own	½, ½	Maremont	7, 11	41½x2½-48x3	L	Ditweiler	49, 4	W, Crane	148	34x4½p-34x7	3,500	50, 80	220
221	I, Torbensen			2, R		E, E	P, Detroit		Detroit			L	Own		W, Crane	140	35x5p-38x7			221
222	W, Timken			2, R		E, E	P, Parish					L	Ross		W, Schwarz	134	34x3½-36x5			222
223	I, Russel, 3-201	Y	B	2, R	10, 13	C, E	P	½, ½	Detroit	8 .13	44x2½-52x3	L	Ross	57, 1	W, Hayes	144	36x3½-36x6	3,800	50, 75½	223
224	W, Timken, 6560	Y	W	2, R		E, E	P, Smith	½, ½	Mather	9, 12	40x2½-53x2½	L	Gemmer		W	160	36x4-36x7	4,800	50, 90	224
225	W, Timken, 6552	Y	W	2, R	11½, 9½	E, E	P, Smith	½, ½	Rowland	9, 15	42x2½-56x3	L	Ross	60, 0	I, Smith	144	36x4-36x7	5,050	86, 70	225
225a	I, Torbensen			2, R					Own				Ross			128	36x4-36x7	3,900		225a
225b	W, Wisconsin			2, R					Own				Ross			128	36x4-36x7	3,900		225b
225c	I, Russel	Y		2, R				½, ½		8, 16		L	Lavine		W	130	34x3½-34x6	4,100		225c
226	W, Timken			2, R			P				40x2½-54x3		Ross	50, 9		144	34x3½-36x5			226
227	I, Russel, U	Y	B	2, R	10, 12	E, C	R, Own	½, ½	Sheldon			L	Jacox		W	140	36x4-36x6	4,200	85, 80	227
228	W, Timken, 6560	N	B	2, R	12½, 9	E, E	P	½, ½	Mather	9, 13	40x2½-54x3	L	Gemmer	50,9	W, Auto	156	36x4-36x7	4,800	60, 71	228
229	W, Sheldon			2, R		E, E	R, Own					L	Ross		I, Smith	144	36x4-36x7			229
230	I, Russel			2, R		C, C	P, Parish & B	½, ½	Rowland			L	Lavine	48, 0	W, E & O	137	34x4-34x6			230
231	W, Timken			2, R		E, E	P, Parish		Merrill			L	Gemmer		W, Standard	156	36x4-36x7			231
232	W	Y	B	2, R		E, E	P	½, ½		9, 11	42x2½-50x2½	L	Ross	57, 0	W	144	36x4-36x7	4,590		232
233	W, Sheldon, W103	Y	B	2, R	12½, 10½	E, E	P, Hydraulic	½, ½	Mather	8, 10	40x2½-56x3	R	Ross		W, Wayne	168	36x4-36x7	4,500	55, 75	233
234	W, Timken, 6560	N	B	2, R	12¼, 9½	E, E	P Smith	½, ½	Detroit	8, 10	40x2½-54x3	L	Jacox		S, Own	144	36x4-36x7	4,855	53, 74	234
235	W, Sheldon, W103	Y	B	2, R	11, 10¾	E, E	P, Own	½, ½	Perfection	11, 1 2	40½x2½-52x2½	L	Ross	51, 0	W, Bimel	144	36x4-36x7	5,100	72, 91	235
237	W, Timken, 6552	Y	W	2, R	12, 9	E, E	R	½, ½	Perfection	9, 12	40x2½-54x3	L	Gemmer		I, Smith	156	36x4-36x4	4,825	25, 80	237
238	W, Timken			2, R					Tuthill				Ross		W	140	36x4-37x7			238
239	I, Russel			2, R		C, E	R, Own		Garden City			L	Lavine		W, Prudden	146	34x4-34x6			239
240	W, Wisconsin			2, R		E, E	P, Parish & B		Iron City			L	Ross		S.Indestruct	144	34x4-34x6			240
240a	W, Sheldon, W-103	N	B	2, R	12½, 10½	E, E	R	½, ½	Sheldon	9, 11	40x2½-50x3	L	Wohlrab	48, 0	W, Bimel	150	36x4-36x7	5,360	58, 68½	240a
241	I, Own		B	2, R	10½, 12	E, E	P	½, ½		10, 14	39½x2½-55½x3	L	Own		W	138	36x4-36x6	4,060	50..68	241
242	I, Clark, 1D	Y	B	2, R	11, 15½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	35x5p-38x7p	3,750	50, 75	242
243	I, Russel			2, R		C, E	R, Own	½, ½	Champion			L	Ross		I, Smith	144	36x4-36x7			243
243a	I, Russel			2, R		E, E	R, Own		Rowland			L	Ross		W, Wayne	144	34x4½p-36x5			243a
244	W, Sheldon, W102	Y	B	2, R		E, C	P, Parish	½, ½	U. S	10, 11	40½x2½-47x2½	L	Ross	39, 6	W, Weston		36x6p-36x7		50, 80	244
246	W, Timken, 6560	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W, Waterb'se	153	36x4-36x7	5,300	50, 75	246
247	C, Own			2, R		C, E	R, Own		Standard			L	Gemmer		W, Hoopes	136	36x4-36x6			247
247a	W, Wisconsin, J	N	B	2, R	10½, 10½	E, E	P, Parish & B	½, ½	Tuthill	9, 12	42x2½-54x3	L	Lavine		W, Bimel	145	36x4-36x7	4,400	—, 80	247a
248	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W, Schwarz	Opt.	36x4-36x4d	4,900	47, 70	248
249	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W. Schwarz	Opt.	36x4-36x4d	5,000	48, 70	249
250	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	160	36x4-36x4d	4,700		250
251	W, Timken, 6552			2, R		E, E	R, Own	½, ½					Ross		I, Smith	144	36x4-36x4d			251
252	I, Torbensen			2, R		C, E	P, Parish & B	½, ½	Sheldon			L	Lavine		W, Prudden	144	36x4-36x6			252
253	W, Sheldon, W21	N	B	2, R	11, 9½	E, E	P, Parish & B	½, ½	Mather	8, 10	41x2½-56x3	L	Ross	52, 0	I, Smith	152	36x4-36x8	5,800	40, 71	253
254	I, Clark, 2D	Y	W	2, R	9½, 9½	C, C	P, Own	½, ½	Alloy	10, 12	37½x2½-52x2½	L	Jacox	50, 0	W, Auto	144	34x4-34x6	3,850	51, 73½	254
255	I, Own	Y	W	4, FR	14½, 14½	E, C	P, Own	½, ½	Mather	9, 8	48x2½-48x2½	L	Lavine	50, 0	S	124	36x5-36x5	6,250	33½, 55	255
256	W, Timken, 6560	N	W	2, R	10¼, 9	E, E	R	½, ½	Mather	9, 11	40x2½-54x3	L	Ross	26, 0	W, Hayes	141	34x4-34x4d	5,000		256
257	W, Timken, 6560	Y	B	2, R	12, 11	E, E	P	½, ½	Perfection	8, 12	39x2½-49x3	L	Ross		W, Arch'ld	168	36x4-36x7	4,940	57, 65	257
258	W, Timken, 6550	N	W	2, R	11, 9	E, E	P, Savage	½, ½	Iron City	9, 14	45x2½-53x3	L	Gemmer		W, Hoopes	140	36x4-36x7	4,600		258
259	W, Sheldon			2, R		E, E	P, Slick-Knox	½, ½	SpringPerch			L	Lavine		W, Bimel	148	36x4-36x7	4,900		259
260	W, Sheldon, W21	Y	B	2, R	14, 9	E, E	P, Parish & B	½, ½	Perfection	9, 10	42x2½-54x3	L	Ross	50, 0	S, Clark	146	36x4-36x4d	5,300	58½, 77½	260
262	W, Timken, 6560	N	B	2, R	10, 10	E, E	P, Savage	½, ½	Mather	7, 12	39x2½-50x3	L	Ross		W, St. M'r'y	158	36x4-36x7	4,850		262
263	B, Own	Y	B	4, FR	10½, 10½	C, C	P, Smith	½, ½	Tuthill	10, 11	50x2½-54x2½	L	Ross	52, 0	W, Bimel	130	36x6p-36x6p	4,200		263
264	W, Own	N	S	2, R	9½, 8⅞	C, E	R, Own	½, ½		11, 11	41x2½-46x2½	L	Own	56, 0	W	144	34x4-34x4d	5,100	48, 70	264
265	W, Own			2, R		E, E	P, Own	½, ½	Tuthill				Ross		W, Bimel	150	34x4-36x4d			265
267	W, Own,	N	B	2, R	9½, 10	C, E	P, Smith	½, ½	Tuthill	8, 12	51x3-60x3	L	Ross	56, 0	W, Bimel	150	34x4-36x4d	5,200	51, 71	267
268	W, Own	N	S	2, R	13, 9½	C, E	P, Parish	½, ½	Spring Perch	10, 13	41x2½-54x3	R	Own	42, 0	W, Own	150	36x4-36x4d	6,250	60, 75	268
269	W, Timken			2, R		E, E	P, Parish					L	Ross		S, Budd	144	36x4-36x7			269
270	W, Timken	Y		2, R		E, E	R, Own	½, ½	Detroit		44x2½-56x3	L	Ross		W, Hayes	150	36x4-36x4d			270
271	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P, Parish	½, ½	Perfection	9, 12	38x2½-50x2½	L	Ross		W, Schwarz	147	34x5-34x6	3,450	75, 75	271
272	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	140	34x4-36x3d	4,500	—, 62	272
273	W, Timken			2, R		E, E	R, Own		Merrill				Ross			132	36x4½-36x6			273
274	I, Torbensen, C2	Y	B	2, R	13, 13½	C, E	P, Savage	¼, ¾	Garden City	8, 12	38½x2½-54x3	L	Ross	60, 0	W, Standard	150	36x4-36x6	4,300	20, 70	274
275	W, Own	N	B	2, R	11, 9	C, E	R, Own	½, ½	National	9, 14	35x2½-50x3	L	Own		W, St. M'rys	156	36x4-36x7	5,500	—, 70	275
276	W, Timken			2, R			P, Smith		Perfection				Gemmer		W	153	36x4-36x6			276
277	W, Sheldon	Y	W	2, R			P, Parish & B		Mather		38x2½-54x2½	L	Ross		W, Royer	157	35x3-35x5			277
279	W, Timken, 6560	N	W	2, R	12½, 10	E, E	P, W	½c ½c	Mather	8, 11	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x4-36x6	5,000	45, 97	279
280	I, Clark, 2D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	9, 12	41x2½-54x3	L	Ross	50, 0	W, Wayne	156	34x4-34x7	4,460	59, 72	280
281	W, Sheldon, W103	N	W	2, R	12¼, 10½	E, E	P, Smith	½, ½	Sheldon	9, 12	40x2½-50x3	L	Lavine	51, 0	W, Bimel	140½	36x4-36x7	4,600	49, 69	281
282	W, Timken, 6560	Y	B	2, R	10¼, 10	E, E	Parish & B	½, ½	Sheldon	9, 11	40x2½-52x3	L	Ross	52, 0	W, Wayne	150	36x4-36x7	4,750	53, 71	282
283	I, Torbensen, CE	Y	B	2, R	13, 13	C, E	P	½, ½	Tuthill	8, 13	38x2½-51x3	L	Ross	46, 0	W, Schwarz	144	36x4½-36x6	3,600	75, —	283
284	I, Russel, PI-302	Y	B	2, R	11, 12	C, E	R, Own	½, ½	Detroit	9, 10	36½x2-46x2½	L	Own	48, 6	W, Bimel	132	34x3½-34x5	3,175	42, 85	284
285	I, Clark, 2D	Y	B	2, R	10¾, 11½	C, E	P	½, ½	Detroit	9, 13	40x2½-54x3	L	Jacox		W	150	36x6p-40x8p	4,250	50, 70	285
286	I, Clark, 2D	Y	W, Powrlok	2, R		C, C	R, Mason	½, ½	Detroit	10, 12	42½x2¼-54x3	L	Gemmer	56, 0	W, Royer	147	36x4-36x6	4,200	60, 80	286
287	I, Russel, P-300	Y	B	2, R	12, 13½	C, E	R	½, ½	Higgins	9, 11	36x2½-50x2½	L	Lavine	46, 0	W, Standard	144	36x3½-36x5	4,200	40, 70	287
287a	I, Clark, 1D	Y	B	2, R	11, 12¾	E, C	P	½, ½	Sheldon	9, 10	38½x2½54x2½	L	Lavine	50, 0	W, Schwarz	144	35x5p-38x7p	3,850	47, 69	287a
288	C, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	132	36x5-36x4d			288
289	I, Clark	Y	BW	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden	140	—x4—x5	3,250	80, 80	289
290	W, Sheldon, W102	Y	W	2, R	12¼, 10	E, E	P	½, ½	Sheldon	9, 12	42x2½-56x3	L	Gemmer	37, 10	I, Smith	142	36x4-36x6	4,700	40, 70	290
291	B, Own	N	B	2, R	10¾, 9	C, E	P	½, ½				L	Own	60, 0	W	157½	36x4-36x7	4,150	54, 70	291
292	W, Sheldon	Y	W	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit		40x2¼56x3	R	Ross		W	144	36x3½-36x6	4,400		292
293	I, Clark, 2D	Y	B	2, R	12, 11	C, C	R, Own	½, ½	Mather	8, 10	46x2½-56x3	R	Ross	60, 0	I, Own	147	34x4-34x4d	5,300	45, 80	293
293a	I, Russel	Y		2, R			P	½, ½			40x2½-54x3				W	144	34x4-34x3½d			293a

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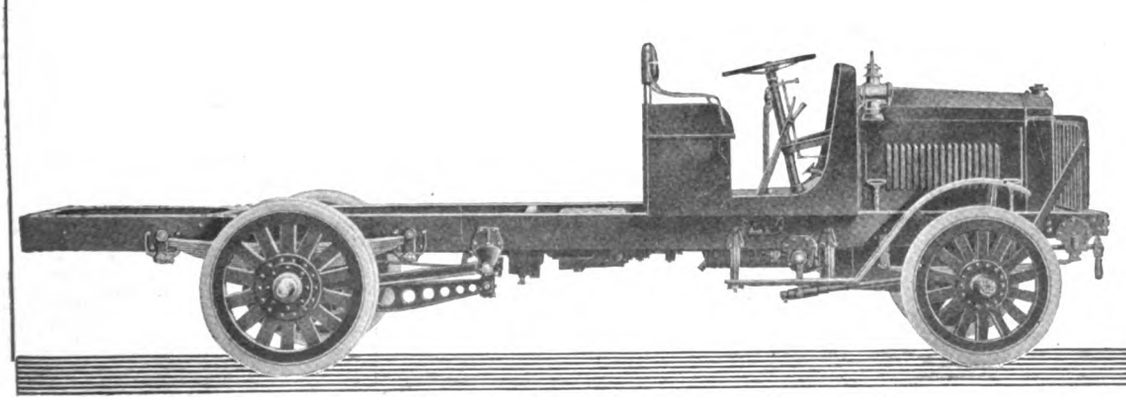

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4,500—5,000 (Standard) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	4,500 Pounds:																			
293b	Oneida, C9	3,390	Hinkl'y, HAA400	4	4x5½-25.6	F	Own	P	C. Modine	Y	Stromberg	G	M. Bosch	N	M. Fuller	S, 4	Fuller, G5	N	Spicer	293b
	5,000 Pounds:																			
294	Acason, H	3,850	Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	C. National	Y	Schebler	G	M. Eisemann	N	M. Detlaff, H6	I, 4	Cotta, R	Y	Blood	294
295	Ace, A	3,450	Buda, HU	4	4½x5½-28.9	FS	Pierce	P	C. Modine	Y	Schebler	G	B. West'gh'se	Y	M. M & E	I, 4	Cotta	N	M & E	295
295a	Astns	3,375	Wisc., UAU	4	4½x6-28.9	F	Pierce	P	T. Own	Y	Zenith	G	M.	N	P. Borg & B	I, 4	Cotta, R	N	Spicer	295a
295b	All-American	2,395	Herschell-Spill'n	4	3½x5 -19.6	FS		T			Stromberg		M. Simms		M.	I, 4	Cotta			295b
296	Apex, E	2,695	Buda, HU	4	4½x5½-28.9	F	Simplex	P	C, G & O	Y	Stromberg	G	M. Eisemann	N	M. Fuller	S, 3	Fuller, TU3	N	Detroit	296
297	Armleder, HW		Continental, C4	4	4½x5½-27.2	FS		P	T, Long	N	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, U50	N	Spicer	297
298	Atterbury, 7CX	3,375	Continental, C4	4	4½x5½-27.2	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	298
299	Available, H2½	3,250	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Ther.-Sp.	299
300	Beck, D	3,500	Continental	4	4½x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	300
301	Bell	2,750	Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit	Y	Universal	301
302	Bessemer, J2	3,285	Continental, C2	4	4½x5½-27.2	S	Pierce	P	C, Standard	Y	Rayfield	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 50	N	Arvac	302
303	Bethlehem, H		Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Fuller, G5	N	Universal	303
304	Bets, D2	2,785	Buda, HU	4	4½x5½-28.9	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4		N	Peters	304
305	Brockway, K4	3,200	Continental, C2	4	4½x5½-27.2	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	305
305a	Capital, H2½	3,450	Wisc., UAU	4	4½x6 28.9	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Detlaff	I, 4	Cotta	N	Thermoid	305a
306	Chicago, C2½	3,250	Hercules, CU3	4	4x5½-25.6	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Peters	306
307	Clydesdale, 65C	3,540	Continental, C4	4	4½x5½-29.0	S	Own	P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	307
308	Columbia, G	2,750	Hinkley, 400	4	4x5½-25.6	F	Hinkley	P	T, Long	N	Zenith	G	M, Bosch	N	P, Detlaff	S, 3	Covert, RA3	N	Spicer	308
309	Concord, B	2,850	Buda	4	4½x5½-28.9		Monarch	P	T, Bush		Zenith		M, Eisemann		M, Brown-L	S, 3	Brown-Lipe		Spicer	309
310	Dart, M	3,000	Buda, HU	4	4½x5½-28.9	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Spicer	310
311	Day-Elder, C	2,950	Buda, TU	4	4½x5½-28.9	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, RU3C	N	Hartford	311
312	DeKalb, E2½	2,600	Continental	4	4½x5½-27.2		N	P	T, Jackson		Master		M. Eisemann	N	M, Fuller	S, 3	Fuller		Hartford	312
313	Denby, 25	3,250	Continental, C2	4	4½x5½-27.2	F	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	313
314	Dependable, E	2,750	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 4	Fuller, G5	N	Acme	314
315	Doane	3,750		4	4½x5½-28.9	FS		P					M, Bosch		M	S, 3	Brown-Lipe			315
316	Erie		Continental	4	4½x5½-27.2		Pierce		T		Stromberg		M, Bosch		M	S, 4				316
317	Fageol	3,400	Waukesha, RU4R	4	4½x5½-28.9	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	317
318	Gary, J	3,150	Buda, HTU	4	4½x5½-28.9	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	318
319	Gersix, G	3,150	Buda, LSU	4	4½x5½-28.9	F	Simplex	P	T, Chicago		Stromberg		M, Bosch		P, Borg & B	I, 3	Cotta, BUA			319
320	Gersix, K	3,150	Buda, HU	4	3½x5½-19.6	S	Monarch	P	C, Ideal		Stromberg		M, Bosch		P, Borg & B	I, 3	Cotta, BUA			320
321	Gramm-Bernstein, 25	3,875	Hinkley	4	4½x5½-28.9	F	Hinkley	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	321
323	Hahn, E	2,500	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			323
324	Hal-Fur, B	2,750	Buda	4	4½x5½-28.9		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	324
325	Harvey, WFA	3,300	Buda	4	4½x5½-28.9		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	325
326	Hawkeye, M	2,650	Buda	4	4½x5½-28.9		Simplex	P	T, Ideal		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller		Hartford	326
327	Hurlburt	3,750	Buda	4	4½x5½-28.9	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35			327
328	Indiana, 25	3,350	Own	4	4½x5½-27.2	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Acme	328
329	Jumbo, 25		Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	329
330	Kalamazoo, H		Wisconsin, TAU	4	4x6-25.6	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	330
331	Kankakee, E	2,465	Continental N9	6	3½x5½-25.3	FS		P	C, Auto	N	Zenith	G	B	Y	M, Muncie	S, 3	M'e AS-5-T23N	N	Acme	331
332	Kelly-Sp'gf'ld, K35(ch'n)	3,500	Own	4	3½x5½-22.5	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, O	N	Own	332
333	Kelly-Sp'gf'ld, K36(w'm)	3,500	Own	4	3½x5½-22.5	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, O	N	Spicer	333
335	Kimball, C	3,977	Wisconsin, UU	4	4½x6-28.9	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	335
335a	Kissel, Freighter	3,475	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	335a
336	Kleiber, B	4,200	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'n'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	336
337	Koehler, M	3,365	Hercules, CU3	4	4x5½-25.6	F	Simplex	P	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	337
338	K-Z	2,950	Continental, C4	4	4½x5½-27.2	S	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	338
339	Larrabee, SK		Continental, C4	4	4½x5½-27.2	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	339
340	L.M.C. 2-20	2,950	Continental, C2	4	4½x5½-27.2	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Borg & B	S, 4	Detroit, H	N	Baker	340
341	Maccar, H	3,750	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Spicer	341
342	Mapleleaf, BB		Hinkley, HA500	4	4½x5½-28.9	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	342
342a	Master, D, (int.)	3,540	Buda, HU	4	4½x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342a
342b	Master, W, (worm)	3,290	Buda, HU	4	4½x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342b
343	Midland, S	3,150	Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-L, 50			343
344	Moreland, 19C	3,775	Continental	4	4½x5½-32.4	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	344
344a	Nelson & LeMoon, F2½		Continental	4	4½x5½-27.2		Pierce	P	T, Chicago		Stromberg		M, Bosch	N	M, Brown-L	S, 3	Brown-Lipe		Thermoid	344a
345	Netco, H	3,500	Continental, E4	4	4½x5½-32.4	S	N	P	T, R'e-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	345
346	Noble, D50		Buda	4	4½x5½-28.9		Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 4	Fuller		M & E	346
347	Ogden, C2		Continental, C2	4	3½x5-22.5	S	Pierce	P	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30		Acme	347
347a	O. K., L	3,250	Buda, HTU	4	4½x5½-28.9	FS	Pierce	P	T, R'me-T'n'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, GU5		Hartford	347a
348	Old Reliable, B	3,250	Wisconsin, UU	4	4½x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	348
348a	Orleans			4	4½x5½-27.2			P	T	N	Mas'er	G	M, Eisemann	N	M	I, 4	Cotta			348a
349	Paige, 54-20		Hinkley, HA500	4	4½x5½-27.2	F	Simplex	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	349
350	Patriot, Washington	3,450	Hinkley, HA	4	4½x5½-32.4	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Covert, RA4	N	Thermoid	350
351	Reliance, B20	3,200	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	I, 4	Cotta, R	N	Peters	351
352	Republic, 19		Continental, C2	4	4½x5½-27.2	FS	Pharo	P	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 4	Fuller, GU5	N	Spicer	352
353	Reynolds 5A	3,800	Hinkley	4	4½x5½-28.9	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	353
354	Rowe, CDW	3,575	Wisconsin	4	4x5-25.6	F	Simplex	P	Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	354
355	Royal	3,500	Wisconsin	4	4½x6-28.9		Monarch	T	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			355
356	Sandow, J	3,375	Continental, C4	4	4½x5½-27.2	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	356
357	Sanford, W25	3,350	Cont nental, C4	4	4½x5½-27.2	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35	N	Spicer	357
358	Schacht		Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 4	Own	N	M & E	358
359	Schwarta, C2	2,675	Continental, K4	4	4½x5½-27.2	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50	N	M & E	359
360	Selden, 2½A		Continental, C4	4	4½x5½-27.2	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	360
361	Service, 51	3,475	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	361
361a	Signal, J	3,275	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	361a
361b	Standard, 76		Continental, C2	4	4½x5½-27.2	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	361b

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TRUCK SPECIFICATIONS

4,500—5,000 (Standard)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Frame material (Pressed-steel, Rolled-steel) and make.	Leaves in front and rear springs.	Make of springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
293b	W, Wisc., 900C..	N	B	2, R	10½, 9	E, E	P, Detroit.....	½, ½	Mather....	9, 13	40x2½-56x3 ...	L	.....	.....	W	160	36x3-36x7.....	5,2 0	60, 85	293b
294	W, Timken, 6560..	Y	W	2, R	13, 10	E, E	P, Savage.....	½, ½	Detroit....	10, 14	40x2½-50x3....	L	Ross.....	.....	W, Bimel...	150	36x4-36x8.....	4,850	—, 76	294
295	W, Timken, 6560..	Y	W	2, R	11½, 9½	E, E	P, Parish & B..	½, ½	Mather....	10, 12	39x2½-54x3....	L	Ross.....	60, 0	S. Davton..	156	36x6p-40x8p.....	5,650	25, 60	295
295a	W, Sheldon, W21.	N	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	12, 14	40x2½-52x3....	L	Ross.....	.....	W.....	150	36x4-36x4d	.....	50, 70	295a
295b	I, Torbensen	.....	W, Powrlok.	2, R	.....	.....	P.....	½, ½	.....	10 12	40x2½-54x3.....	...	.....	.....	W.....	130	34x4-34x6.....	.....	.....	295b
296	I, Torbensen.....	Y	B	2, R	11, 13½	C, E	R.....	½, ½	Detroit....	10, 13	39½x2½-52½x3..	L	Lavine....	.....	W, Bimel...	150	36x4-36x6.....	4,510	—, 66	296
297	W, Timken, 1540B	N	W	2, R	10, 10	E, E	P.....	½, ½	Mather....	7, 9	42x2½-60x3....	L	Ross.....	52, 0	W,St.M'rys.	148	36x4-36x4.....	4,600	60, 80	297
298	W, Timken, 6560..	Y	B	2, R	15, 9½	E, E	P.....	½, ½	Spring Perch	9, 12	41½x2½-54x3...	R	Gemmer..	55, 9	W, Arch'b'ld	153½	36x4-36x4d.....	5,070	.....	298
299	W, Wisc., 900C...	N	W	2, R	11, 10	E, C	R, Own.....	½, ½	Tuthill....	9, 14	40x2½-52x3....	L	Ross.....	44, 0	W, Schwars.	152	36x4-36x8.....	5,000	55, 75	299
300	W, Timken.....	N	W	2, R	14, 12	C, E	P.....	½, ½	Higgins....	9, 15	40x2½-52x3½....	L	Lavine..	48, 0	W, Bimel...	144	36x5-36x8.....	4,200	30, 75	300
301	I, Russel.....	Y	B	2, R	11,14	C, E	R, Own.....	½, ½	Detroit	9, 11	42x2½-56x3....	L	Gemmer..	52, 0	W, Bimel...	146	34x4-34x6.....	4,200	50, 70	301
302	I.....	N	B	2, R	9½, 12	C, E	P.....	½, ½	Perfection..	10, 12	41½x2½-56x3....	L	Ross.....	.....	W, Schwars.	158	36x4-36x4d.....	4,625	50, 75	302
303	I, Russel, RI300..	Y	B	2, R	12½, 13½	C, E	P, Detroit.....	½, ½	Mather	9, 11	40x2½-56x3....	L	Lavine...	51, 0	I. Smith....	143	34x4-34x6.....	3,950	—, 90	303
304	W, Timken, 6560..	Y	B	2, R	11, 9	E, E	P, Parish & B..	½, ½	Temme....	8, 14	40x2½-55x3....	L	Ross.....	35, 0	S, Dayton..	150	36x4-36x7.....	4,750	75, —	304
305	W, Timken, 6560..	N	B	2, R	.....	E, E	P, Parish.....	½, ½	Merrill....	10, 13	43x2½-51½x3....	L	Gemmer..	.....	W, Hoopes..	152	36x4-36x7.....	4,850	54, 84	305
305a	W, Wisc., 900C..	Y	B	2, R	11½, 9½	E, E	R.....	½, ½	SpringPerch	.....	42x3-56x3½....	L	Ross.....	54, 0	S, Detroit.	.....	36x4-36x8	5,100	55, 85	305a
306	W, Timken, 6560..	Y	B	2, R	12 ,9	E, E	R, Own.....	½, ½	Mather....	9, 13	40x2½-54x3....	L	Gemmer..	.....	W, Standard	156	36x4-36x7.....	4,610	60, 75	306
307	W, Timken, 6560..	N	B	2, R	11½, 9	E, E	P, Parish & B..	½, ½	Perfection..	7, 10	44x3-52x3.....	L	Ross.....	61, 0	I, Smith....	163	36x4-36x7.....	4,850	60, 80	307
308	I, Russel, NI-400..	Y	B	2, R	.....	C, E	R.....	½, ½	Perfection..	9, 11	40x2½-52x3½....	L	Own.....	.....	W,St.M'rys.	144	36x4-36x7.....	5,100	.....	308
309	W, Timken.....	.....	.....	2, R	.....	E, E	P, Parish & B..	.....	Spring Perch	.....	.....	L	Ross.....	.....	W, Crane..	150	36x4-36x4d.....	.....	.....	309
310	W, Own.....	Y	B	2, R	10½, 10½	E, E	P, Savage.....	½, ½	Perfection..	8, 11	39x2½-56x3....	L	Ross.....	50,0	W, Prudden.	150	36x4-36x7.....	4,750	50, 80	310
311	W, Sheldon, W21.	Y	B	2, R	12½, 9½	E, E	P, Savage.....	½, ½	Iron City...	9, 14	42x2½-56x3 ...	L	Gemmer.	54, 0	W, Jones...	150	36x4-36x7.....	5,000	50, 70	311
312	W, Timken.....	.....	.....	2, R	.....	E, E	P, Parish.....	.....	Mather.....	.....	.....	L	Ross.....	.....	W, Schwars.	136	36x4-36x6.....	.....	.....	312
313	I, Russel, U.....	Y	B	2, R	10, 13	C, E	P, Detroit.....	½, ½	Detroit....	10, 14	44x2½-54x3½....	L	Ross.....	57, 1	S, Dayton..	149½	36x4-36x7.....	4,790	52, 79½	313
314	W, Wisc., 900C...	Y	W	2, R	10, 10	E, C	P.....	½, ½	Perfection..	11, 14	42x2½-52x3.....	L	Ross.....	36, 0	W, Bimel...	157	36x4-36x7.....	5,600	40, 70	314
315	C.....	.....	.....	2, R	.....	E, E	P.....	½, ½	.....	.....	.....	.....	.....	.....	W.....	156	36x5-36x7.....	.....	.....	315
316	W, Timken.....	.....	.....	.....	.....	.....	P.....	.....	.....	.....	.....	.....	Ross.....	.....	.....	160	34x4-36x5.....	.....	.....	316
317	W, Timken, 6560..	Y	B	2, R	9½, 10	E, C	R, Own.....	½, ½	Mather....	9, 13	41x2½-56x3....	L	Ross.....	56, 1	W, Prudden.	144	34x4-36x7.....	4,600	50, 71	317
318	W, Timken, 6560..	Y	W	2, R	12, 10½	E, E	P.....	½, ½	Tuthill....	11, 13	44x2½-52x3.....	L	Ross.....	42, 0	W, Prudden.	148	36x4-36x7.....	4,850	50, 20	318
319	W, Own.....	.....	.....	2, R	.....	C, E	R, Own.....	½, ½	Tuthill....	.....	.....	.....	Ross.....	.....	W, Jones...	150	36x4-36x7.....	.....	.....	319
320	W, Own.....	.....	.....	2, R	.....	C, E	R, Own.....	½, ½	Tuthill....	.....	.....	.....	Ross.....	.....	W, Jones...	150	36x4-36x7.....	.....	.....	320
321	W, Standard.....	Y	B	2, R	.....	E, E	P, Own.....	½, ½	Perfection..	.....	46x2½-58x3.....	L	Ross.....	59, 6	I, Smith....	150	36x4-36x4d.....	6,800	73½, 91	321
323	W, Timken.....	.....	.....	2, R	.....	.....	P.....	.....	Delaney....	.....	.....	.....	Ross.....	.....	W.....	156	36x4-36x4d.....	.....	.....	323
324	W, Timken.....	.....	.....	2, R	.....	E, E	P, Parish & B..	.....	Spring Perch	.....	.....	L	Gemmer..	.....	S. Massillon.	168	35x5-36x7.....	.....	.....	324
325	W, Sheldon.....	.....	.....	2, R	.....	E, E	R, Own.....	.....	Sheldon....	.....	.....	L	Ross.....	.....	W, Schwars.	150	36x4-36x7.....	.....	.....	325
326	I, Clark.....	.....	.....	2, R	.....	C, E	R, Own.....	½, ½	Detroit....	.....	.....	L	Ross.....	.....	W, Bimel...	148½	36x4-36x6.....	.....	.....	326
327	W, Hindley.....	.....	.....	2, R	.....	E, C	P, Savage.....	½, ½	Perfection..	.....	.....	.....	Ross.....	.....	W, Wayne..	170	36x4-36x4d.....	.....	.....	327
328	W, Sheldon, W21..	N	B	2, R	12½, 9½	E, E	R.....	½, ½	Sheldon....	9, 14	40x2½-50x3....	L	Wohlrab.	50, 0	W, Bimel...	156	36x4-36x8.....	6,000	61, 71½	328
329	I, Clark, 2D.....	Y	B	2, R	10, 11½	C, E	P.....	½, ½	Detroit....	9, 14	40x2½-54x3....	L	Jacox....	45, 0	S, Clark...	152½	36x4-36x7.....	4,800	50, 75	329
330	W, Sheldon, W21..	N	W	2, R	9½, 9	E, E	R.....	½, ½	Sheldon....	8, 13	42x2½-56x3....	L	Ross.....	34, 3	I. Smith....	160	36x4-36x8.....	6,200	—, 80	330
331	I, Russel, S.....	Y	B	2, R	9, 13½	C, E	R, Own.....	½, ½	Temme....	9, 11	39½x2½-49½x3..	L	Ross.....	.....	W, Bimel...	170	34x4-34x6.....	4,200	30, 70	331
332	C, Own.....	N	B	2, R	9½, 16	E, E	P.....	½, ½	Perfection..	11, 13	40x2½-44x2½....	L	Gemmer..	48, 0	W.....	144	36x4-36x4d.....	5,200	50, 90	332
333	W, Own.....	N	B	2, R	9½, 9½	E, E	P.....	½, ½	Perfection..	11, 12	40x2½-47½x3....	L	Gemmer..	48, 0	W.....	144	36x4-36x4d.....	5,540	50, 90	333
335	W, Sheldon, W21..	Y	B	2, R	.....	E, C	P, Parish.....	½, ½	U. S.....	11, 13	40½x2½-50½x3..	L	Ross.....	39, 6	I, Smith....	.....	36x6p-36x8.....	.....	50. 80	335
335a	W, Timken, 6560..	Y	W	2, R	10½, 10	E, E	P, Smith.....	½, ½	Mather....	10, 11	38x2½-54x3....	L	Lavine...	50, 0	W Prudden.	168	36x4-36x7.....	5,200	57½, 76	335a
336	W, Sheldon, W21..	Y	W	2, R	9½, 9½	E, E	R, Own.....	½, ½	Betts.....	8, 14	44x3-52x3.....	R	Ross.....	.....	W,Wat'rh'se	160	36x4-36x8.....	5,900	50, 75	336
337	W, Timken, 6560..	Y	B	2, R	12, 9½	E, E	P, Parish & B..	½, ½	Mather....	10, 12	40x2½-56x3....	L	Lavine...	.....	W, Wayne..	162	36x4-36x7.....	5,000	50, 75	337
338	W, Timken, 6560..	N	B	2, R	12½, 10½	E, E	R, Own.....	½, ½	Tuthill....	8, 10	40x2½-50x3....	L	Ross.....	64, 8	W,St.M'rys.	150	36x4-36x8.....	4,800	.....	338
339	W, Sheldon, W21..	Y	B	2, R	15, 10	E, E	P, Parish & B..	½, ½	Merrill....	9, 13	41x2½-54x3....	L	Ross.....	.....	W, Hoopes..	156	36x4-36x7.....	5,200	42, 86	339
340	I, Russel, S.....	Y	B	2, R	10½, 14½	C, E	R, Chopper.....	½, ½	Mather....	9, 11	42x2½-56x3....	L	Lavine...	47, 0	W, Bimel...	164	36x4-36x4d.....	4,500	53, 75	340
341	W, Timken, 6560..	N	B	2, R	12½, 10	E, E	P, Parish.....	½, ½	Merrill....	8, 12	42x2½-56x3....	L	Ross.....	.....	S, Dayton..	162	36x4-36x4d.....	5,000	—, 70	341
342	W, Sheldon, W21..	Y	B	2, R	11½, 9½	E, E	R, Own.....	½, ½	Sheldon....	.....	44x2½-54x3.....	L	Ross.....	.....	W, Hayes..	150	36x4-36x4d.....	5,500	50, 70	342
342a	I, Walker.....	Y	B8	2, R	.....	C, E	P, Parish & B..	½, ½	Detroit....	11, 13	44½x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	144	34x4-36x7.....	4,300	53, 76	342a
342b	W, Timken, 6560..	Y	B	2, R	9½, 10½	E, E	P, Parish & B..	½, ½	Detroit....	11, 13	44½x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	144	34x4-36x7.....	4,500	53, 76	342b
343	W, Sheldon, W21..	.....	.....	.....	.....	E, E	P, Parish & B..	½, ½	Sheldon....	.....	.....	.....	Ross.....	.....	I, Smith....	150	36x4-36x7.....	.....	.....	343
344	W, Timken, 6552..	N	W	2, R	12, 10	E, E	P.....	½, ½	U. S.....	10, 11	39½x2½-50x3½..	L	Ross.....	50, 0	I. Smith....	144	36x4-36x7.....	5,400	50, 65	344
344a	W, Timken, 6560 ..	Y	.....	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	.....	.....	R	Lavine....	.....	W, Prudden.	.....	36x4-36x7.....	.....	.....	344a
345	W, Timken, 6560..	Y	B	2, R	12, 11	E, E	P.....	½, ½	Perfection..	10, 15	39x2½-49½x3....	L	Ross.....	.....	W, Arch'b'ld	168	36x4-36x8.....	5,120	57, 65	345
346	W, Sheldon.....	.....	.....	2, R	.....	E, E	P, Slick-Knox....	.....	SpringPerch	.....	.....	.....	Lavine....	.....	W, Bimel...	150	36x4-36x8.....	5,700	.....	346
347	W, Timken.....	Y	B	2, R	10, 10	E, E	P, Garden City.	C, C	Tuthill.....	8, 10	38x2½-50x2½....	L	Gemmer..	.....	W, Standard	160	36x3½-36x4.....	3,400	—, 70	347
347a	W. Wisc., 900.....	.....	.....	2, R	.....	E	P, Savage.....	½, ½	Liggett....	.....	.....	.....	Ross.....	.....	W, Bimel...	150	336x4-36x8.....	.....	.....	347a
348	W, Sheldon, W21..	Y	W	2, R	10½, 9½	E, E	R.....	½, ½	Sheldon....	9, 14	46x3-54x3.....	R	Ross.....	.....	W,St.M'rys.	160	34x4-36x4d.....	5,750	—, 70	348
348a	W.....	N	.....	2, R	.....	E, E	R.....	½, ½	.....	.....	42x2½-54x3	.....	Ross.....	.....	I, Smith....	160	36x4-36x7.....	.....	.....	348a
349	W, Timken.....	N	B	2, R	.....	E, E	P.....	½, ½	Perfection..	11, 11	45x2½-54x3.....	L	Ross.....	.....	S. Dayton..	150	34x4-34x4d.....	5,200	60, 75	349
350	W, Empire, O....	Y	B	2, R	10, 10½	E, E	P, Detroit.....	½, ½	Cooper.....	10, 15	44x2½-56x3.....	L	Ross.....	51, 10	W, Bimel...	156	36x4-36x7.....	5,200	49, 82	350
351	E, Badger.....	Y	W, Powrlok..	2, R	10, 10½	E, E	P, Savage.....	½, ½	Sheldon....	9, 11	46x2½-58x2½....	L	Ross.....	.....	W, Bimel...	156	36x4-36x4d.....	5,500	40, 85	351
352	I, Torbensen, C2..	Y	W, Powrlok..	2, R	.....	E, E	P, Detroit.....	½, ½	Mather	9, 13	38½x2½-52½x3..	L	Jacox....	.....	W.....	144	36x4-36x7.....	4,200	.....	352
353	W, Sheldon.....	Y	B	2, R	11, 9½	E, E	R, Standard....	½, ½	Perfection..	.....	40x2½-54x3.....	L	Lavine....	.....	I. Smith....	154	36x4-36x8.....	.....	.....	353
354	W, Sheldon, W21..	.....	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	.....	.....	L	Ross.....	.....	W, Hoopes..	162	34x4-36x4d.....	4,500	—, 64	354
355	W, Timken	.....	.....	2, R	.....	E, E	R, Own.....	.....	Merrill....	.....	.....	.....	Ross.....	.....	W.....	132½	36x4½-36x6.....	.....	.....	355
356	W, Timken, 6560.	Y	W	2, R	9½, 9½	E, E	P, Savage.....	½, ½	Garden City	8, 13	38½x2½-54x3....	R	Ross.....	36, 0	W, Standard	165	36x4-36x7.....	4,650	20. 70	356
357	W, Sheldon, W21..	Y	W	2, R	11, 9½	E, E	P, Parish & B..	½, ½	Perfection..	9, 13	42x2½-52x3.....	L	Ross.....	58, 0	W Hoopes..	174	36x4-36x4d.....	5 330	73, 87	357
358	W, Own.....	N	B	2, R	11, 9	C, E	R, Own.....	½, ½	National...	9, 14	35x2½-50x3.....	L	Own.....	.....	W,St.M'rys.	156	36x4-36x4d.....	6.000	—, 70	358
359	I, Torbensen, D...	Y	B	2, R	10, 11½	C, E	P, Parish.....	½, ½	Rowland...	10, 15	40½x2½-54x3....	L	Ross.....	.....	W, Schwars.	150	34x4-34x7.....	4,200	.....	359
360	W, Timken, 6560..	N	B	2, R	12, 10½	E, E	P, Parish & B..	½, ½	Perfection..	9, 14	40x2½-54x3.....	R	Gemmer.	54, 0	S.....	145	36x4-36x7.....	5,400	52, 75	360
361	W, Timken, 6560..	Y	B	2, R	12. 9½	E, E	P.....	½, ½	Mather....	10, 14	42x2½-54x3....	L	Ross.....	48, 0	W. Bimel...	160	36x4-36x7.....	5,180	—, 70	361
361a	W, Timken, 6560..	N	B	2, R	11, 11	E, E	P, Savage.....	½, ½	Detroit....	10, 13	44x2½-56x3....	L	Ross.....	60, 0	W, Hayes...	150	34x4-36x8.....	5.210	—, 76	361a
361b	W Timken, 6560..	N	B	2, R	12. 9½	E, E	R, Own.....	½, ½	.....	8, 12	38x2½-54x3.....	L	Ross.....	.....	W.....	140	36x4-36x7.....	4.430	59, 71	361b

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5,000 (Sterling)—7,000 (Kelly-Springfield) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	5,000 Pounds—Con.																			
362	Sterling	3,650	Own	4	4½x5½-30.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	362
363	Super, 50		Wisconsin, TAU.	4	4x6-25.6	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Thermoid	363
364	Tiffin, MW	3,200	Continental, C4.	4	4½x5½-27.2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Peters	364
365	Titan	3,400	Buda, HTU	4	4½x5½-28.9	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, AU	N	M & E	365
366	Tower, H	3,475	Continental, C4.	4	4½x5½-27.2	S	Pierce	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N		366
367	Traylor, D	3,375	Buda, MTU	4	4½x5½-28.9	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 4	Covert	N		367
368	Triangle, B	2,850	Waukesha, FU.	4	4x5½-25.6	FS	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Detroit	368
369	Ultimate, B		Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	369
370	Union, F	3,150	Wisconsin, TAU.	4	4x6-25.6	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	370
371	United, B		Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			371
372	U. S., H	3,250	Continental	4	4½x5½-27.2		Pierce	P	C, Fedders		Stromberg		M, Eisemann		C, Hartford	S, 4	Brown-L		Blood	372
372a	Vulcan, 25	3,750	Wisc., UAU	4	4½x6-28.9	F	Pierce	P	T	Y	Zenith	G	M, Eisemann	N	M, Brown-L,50	S, 4	Brown-L, 50	N	Spicer	372a
373	Walker-Johnson, B	2,890	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T		Zenith		M, Eisemann		M	S, 4				373
374	Ward LaFrance, 2B	3,590		4	4½x5½-30.6	F		P	T, Own	Y	Zenith	G	M, Berling	N	M, Brown-L	S, 4	Brown-L, 50	N	M & E	374
375	Watson, 19		Waukesha, CU.	4	4½x5½-30.6	F	Waukesha	P	T, R'e-T'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	375
375a	White Hickory, K	3,350	Continental, C2	4	4½x5½-27.2	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	M & E	375a
376	Wichita, R	3,000	Waukesha, BX.	4	3½x5-22.5	P	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	376
376a	Wichita, RX	3,600	Beaver, JB	4	4½x6-28.9	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	376a
377	Wilcox, C		Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		377
378	Wilson	3,150	Continental, C4.	4	4½x5½-27.2	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Thermoid	378
379	Winther, 450	3,690	Wisconsin, EAU.	4	4x5-25.6	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU5	N	Peters	379
380	Wisconsin, C	2,850	Waukesha	4	4x5½-25.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			380
381	Witt-Will, P	2,950	Continental	4	4½x5½-27.2		Pierce	P	C, Modine		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	381
	6,000 Pounds:																			
381a	Ace	3,650	Buda, HU	4	4½x5½-28.9	FS	Pierce	P	C, Modine	Y	Schebler	G	M, Eisemann	N	M, M & E	I, 4	Cotta	N	M & E	381a
382	A & B, 3T	4,500	Own	4	5½x4½-42.8		N	P	T, Bush		Schebler		M, Bosch	N	N	* 2	*		Franck	382
383	Beck, D	3,500	Continental	4	4½x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	383
384	Beech Creek, 3A	3,850	Waukesha	4	4½x5½-28.9		Waukesha	P			Master		M, Eisemann		M, Fuller	S, 3	Fuller			384
384a	Douglas, I	3,350	Buda	4	4½x5½-28.9		Pierce	P	T, Own		Schebler		M, Eisemann		M, Fuller	S, 4	Fuller		Arvac	384a
385	Forschler, BX	3,450	Continental	4	4½x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 4	Fuller		Own	385
386	FWD, B	4,750	Wisconsin, A	4	4½x5½-36.1	FS	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Hele-Shaw	I, 3	Cotta, DAF	N	Blood	386
387	Jumbo, 30		Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	387
388	Kimball, K	4,400	Wisconsin, AU.	4	4½x5½-36.1	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	388
390	Packard, D	4,350	Own	4	4½x5½-32.4	F	Own	P	C, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther.-Sp.	390
391	Riker, B		Own	4	4½x6-28.9	S	Own	P	T	N	Own	G	M, Berling	N	C, Own	S, 4	Own	N	Own	391
392	Rowe, GSW (4-cyl.)	3,900	Wisconsin	4	4x5-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	392
393	Rowe, GPW (8-cyl.)	4,950	Herschell-Spill	8	2½x5-16.2	F	N	P	C, Fedders		Zenith	G	Atwater-K	Y	M, Brown-L	S, 4	Brown-Lipe		Spicer	393
393a	Stoughton, F	3,600	Hercules, MU2	4	4½x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Thermoid	393a
393b	U. S. R		Hink'y HAR400	4	4x5½-25.6	F	Hinkley	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Blood	399b
394	Vim, 23	3,950	Hercules	4	4½x5½-28.9	F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	394
395	Walter (N. Y.), T		Waukesha, CU.	4	4½x5½-30.6	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Brown-L, 50		M & E	395
396	White, 40	4,500	Own	4	3½x5½-22.5	F	Own	P	T, Own	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	396
	7,000 Pounds:																			
397	Acason, L	4,900	Waukesha, DU.	4	4½x6½-32.4	F	Waukesha	P	C, National	Y	Stromberg	G	M, Eisemann	N	M, Detlaff, H8	I, 4	Cotta, R	Y	Blood	397
398	Acme, C	4,050	Continental, E7.	4	4½x5½-32.4	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	N	Blood	398
398a	Aetna	4,375	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, S	N	Spicer	398a
399	All-Power, SV4	4,800	Continental	4	4½x5½-32.4		Pharo	P	T, McCord		Zenith		M, Eisemann	Y	M, Detlaff	I, 3	Cotta		Universal	399
400	Armleder, KW		Continental, E4.	4	4½x5½-32.4	FS		P	T	N	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, U50	N	Spicer	400
401	Atterbury, 7D	4,175	Continental, E4.	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	401
402	Available, H3½	4,200	Continental, E4.	4	4½x5½-32.4	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Ther.-Sp.	402
403	Belmont, D	3,550	Buda, YU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, G	N	Sterling	403
404	Bethlehem, J		Own	4	4½x5½-32.4	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 4	Fuller, G5	N	Universal	404
405	Brockway, R2	4,100	Continental, E4.	4	4½x5½-32.4	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	405
405a	Capital, M3½	4,150	Wisc., UAU	4	4½x6-28.9	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Detlaff	I, 4	Cotta	N	Thermoid	405a
406	Chicago, C3½	4,450	Hercules, MU3	4	4½x5½-32.4	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Peters	406
407	Clydesdale, 90C	4,400	Continental, E4.	4	4½x5½-32.4	S	Own	P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	407
408	Dart, W	4,000	Buda, YU	4	4½x6-32.4	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, HU	Y	Spicer	408
409	Day-Elder, F	3,700	Continental, E4.	4	4½x5½-32.4	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 50	N	Hartford	409
410	Denby, 27	4,250	Continental, E7.	4	4½x5½-32.4	F	Monarch	P	T, Long	Y	Stromberg		M, Eisemann	N	M, Own	S, 4	Fuller, G5	N	Universal	410
411	Diamond T, K	4,825	Dia. T. Design	4	4½x5½-28.9	FS	Unit Mot	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 4	Covert	N	Spicer	411
412	Dorris, K7	4,400	Own	4	4½x5½-28.9	F	Own	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Warner	S, 4	Warner, T53	N	Spicer	412
413	Duplex, E	4,250	Buda, TU	4	4½x5½-28.9	S	Duplex	P	T, Long	N	Schebler	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Peters	413
414	Erie		Continental	4	4½x5½-32.4		Pierce		T		Stromberg		M, Bosch			S, 4				414
415	Fageol	4,500	Waukesha, DU.	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	415
416	Federal, WE	4,100	Continental, E4.	4	4½x5½-32.4	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner	N	Spicer	416
417	Garford, 77C	4,300			4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		417
418	Garford, 77D	4,190			4½x6-32.4	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		418
419	Gary, KL	4,150	Buda, YTU	4	4½x6-32.4	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	419
420	Giant, 17	4,150	Continental, E4.	4	4½x5½-32.4	FS	Pierce	P	C, Own	Y	Stromberg	G,K	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N		420
421	GMC, 71A		Continental, E4.	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	421
422	Gramm-Bernstein, 35	4,775	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	422
423	Hall	3,750	Continental, E4.	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	423
424	Harvey, WHA	4,300	Buda		4½x6-32.4		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	424
425	Hendrickson	3,800	Buda		4½x5½-28.9		Pierce	P	T, Chicago		Stromberg		M, Dixie	N	M, Fuller	S, 4	Fuller			425
426	Hurlburt, C	4,400	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50			426
427	Indiana, 35	4,150	Own	4	4½x5½-30.6	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	427
428	International, L	4,500	Own	4	4½x5-28.9	FS	Own	T	T, Long, McC	Y	Ensign	G	M, Dixie	N	M, Own	S, 4	Brown-L	N	Own	428
429	Jackson, C1920	4,250	Continental	4	4½x5½-32.4		Pierce	P	T, Long		Stromberg		M, Eisemann		P, Borg & B	S, 4	Own		Spicer	429
430	Jumbo, 35		Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	430
431	Kalamazoo, K		Wisconsin, UAU	4	4½x6-28.9	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	431
432	Kelly-Sp'gf'ld, K40(ch'n)	4,400	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	Y	M, Eisemann	N	C	S, 3	Covert, K	N	Own	432

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TRUCK SPECIFICATIONS

5,000 (Sterling)—7,000 (Kelly-Springfield)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
362	W, Timken, 6560..	N	W	2, R	12½, 10	E, E	P.....	½c½c	Mather....	8, 12	48x3-54x3.....	L	Ross.....	52, 9	W, Prudden	150	36q4-36x4d.....	5,500	58, 88	362
363	W, Sheldon, W21..	Y	B	2, R	11½, 9½	E, E	P.....	½, ½	Sheldon....	10, 12	40x2½-50x3....	L	Lavine...	49, 0	W.....	156	36x4-36x8.....	5,250	.....	363
364	W, Sheldon, W21..	N	B	2, R	10, 11	E, E	P.....	½, ½	Kalamazoo	11, 14	44x2½-50x3....	L	Ross.....	52, 0	I, Smith....	148	36x4-36x3½d.....	4,890	40, 60	364
365	I, Clark, 2D.....	N	B	2, R	11, 14	E, C	P, Parish & B..	½, ½	Sheldon....	9, 11	46x2½-54x3....	L	Wohlrab..	38, 0	W.....	156	34x4-36x4d.....	4,975	51, 78	365
366	W, Timken.....	N	B	2, R	11, 11	E, E	P.....	½, ½	Detroit.....	.....	44x2½-56x3....	L	Ross.....	.....	W, Prudden	146	36x4-36x7.....	5,230	—, 75	366
367	W, Sheldon, W21..	Y	W	2, R	.....	E, E	P, Savage.....	½, ½	.....	.....	40x2½-52x3....	L	Ross.....	.....	W, Schwars.	150	36x4-36x7.....	5,500	.....	367
368	I, Clark, 2D.....	Y	W, Powrlok..	2, R	13, 11	C, C	R.....	½, ½	Detroit....	10, 12	42½x2½-54x3....	L	Gemmer..	56, 0	W, Royer...	151	36x4-36x7.....	4,900	60, 80	368
369	W, Sheldon, W21..	N	B	2, R	10, 9½	E, E	P.....	½, ½	Sheldon....	10, 16	39x2½-52x3....	L	Ross.....	49, 0	W.....	154	36x4-36x4d.....	5,340	50, 70	369
370	I, Russel, T.....	Y	B	2, R	13, 16	C, E	P, Own.....	½, ½	Mather....	8, 14	44x2½-56x3....	L	Ross.....	.....	W, Prudden.	152	36x5-36x8.....	5,100	50, 70	370
371	I, Clark, 2D.....	....	.....	2, R	.....	E, C	P, Detroit.....	½, ½	Detroit.....	.....	.....	...	Jacox.....	.....	W.....	151	36x4-36x7.....	.....	.....	371
372	W, Sheldon.....	....	.....	2, R	.....	E, E	R, Own.....	....	Sheldon....	.....	.....	L	Lavine.....	.....	W, Schwars.	144	34x4-36x4d.....	.....	.....	372
372a	W, Sheldon.....	N	.....	2, R	.....	E, E	P.....	½, ½	.....	.....	45x2½-55x3....	L	Ross.....	.....	I, Smith....	148	36x4-36x8.....	.....	.....	372a
373	W, Timken.....	....	.....	2, R	.....	E, E	.....	½, ½	.....	.....	.....	...	Ross.....	.....	W.....	150	36x4-36x8.....	.....	.....	373
374	W, Timken, 6560..	N	W	2, R	12½, 9½	E, E	P, Detroit.....	½, ½	.....	.....	40x2½-54x3....	L	Ross.....	.....	W.....	158	36x4-36x4d.....	5,400	—, 85	374
375	W, Empire, O....	Y	B	2.R	11, 10	E, E	P, Parish.....	½, ½	Sheldon....	.....	42x2½-54x3....	L	Gemmer..	.....	W, Crane..	156	36x4-36x7.....	.....	.....	375
375a	W, Timken, 6560.	Y	W	2, R	12, 9½	E, E	P, Parish & B..	½, ½	Sheldon....	8, 12	44x2½-56x3....	L	Lavine...	52, 0	W, Bimel...	150	36x4-36x7.....	4,650	54, 78	375a
376	W, Sheldon.....	Y	W	2, R	11, 9½	E, E	P, Own.....	½, ½	Detroit....	.....	40x2½-56x3....	R	Ross.....	.....	S.....	144	36x4-36x7.....	4,500	.....	376
376a	W, Sheldon.....	Y	W	2, R	11, 9½	E, E	P, Own.....	½, ½	Detroit....	.....	40x2½-56x3....	R	Ross.....	.....	S.....	160	36x4-36x8.....	5,600	.....	376a
377	W, Wisc., 900C...	Y	B	2, R	.....	E, E	P.....	½, ½	Sheldon....	9, 12	40x2½-56x3....	L	Own.....	.....	I, Smith....	150	36x4-36x3.....	5,000	25, 75	377
378	W, Timken, 6560..	Y	B	2, R	12½, 9½	E, E	R, Own.....	½, ½	Perfection..	11, 12	40x2½-52x3....	L	Ross.....	.....	W.....	152	36x4-36x7.....	4,600	60, 80	378
379	I, Clark, 2D.....	Y	B	4, FR	12½, 12	C, E	R, Own.....	½, ½	Mather....	11, 15	40x2½-48x2½....	L	Lavine...	62, 0	I, Own....	150	34x5-36x6.....	4,800	30, 60	379
380	W, Sheldon.....	....	.....	2, R	.....	E, E	P, Smith.....	....	.....	.....	.....	...	Lavine.....	.....	W.....	156	36x4-36x6.....	.....	.....	380
381	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish.....	....	Delaney.....	.....	.....	L	Ross.....	.....	W, Archibald	144	36x3½-36x7.....	.....	.....	381
381a	W, Sheldon, W1500	Y	W	2, R	11½, 9½	E, E	P, Parish & B..	½, ½	Mather....	12, 15	39x2½-54x3....	L	Ross.....	60, 0	S, Dayton..	156	36x6-36x8.....	5,650	30, 60	381a
382	I, Own.....	....	.....	2, F	.....	C, E	R, Own.....	....	Spring Perch	.....	.....	R	Gemmer..	.....	W, Archibald	144	48x3½d-48x3½d.....	.....	.....	382
383	W, Timken.....	N	W	2, R	14, 12	C, E	P.....	½, ½	Higgins....	9, 15	40x2½-52x3½....	L	Lavine...	48, 0	W, Bimel...	144	36x5-36x8.....	4,200	30, 75	383
384	E, Own.....	....	.....	2, R	.....	C, C	.....	....	.....	.....	.....	...	Own.....	.....	.....	132	36x6-36x6.....	.....	.....	384
384a	W, Wisconsin.....	....	.....	2, R	.....	.....	.....	....	Own.....	.....	.....	...	Ross.....	.....	.....	136	36x5-36x8.....	4,750	.....	384a
385	W, Sheldon.....	....	.....	2, R	.....	E, E	R, Own.....	½, ½	Own.....	.....	.....	L	Ross.....	.....	I, Smith....	144	36x4-36x8.....	.....	.....	385
386	B, Own.....	Y	B	4, FR	9⁹⁄₁₆, 9¹¹⁄₁₆	C, C	P, Parish & B..	½P	Tuthill....	11, 10	45½x2½-44x2½...	R	Ross.....	51, 0	W, Schwars.	124	36x6-36x6.....	6,400	38, 55	386
387	I, Clark, 2D.....	Y	B	2, R	10, 13½	C, E	P.....	½, ½	Detroit....	9, 14	40x2½-54x3....	L	Jacox....	45, 0	S, Clark....	152½	36x6p-42x9p.....	5,000	50, 75	387
388	W, Sheldon, W21..	Y	B	2, R	.....	E, C	P.....	½, ½	U. S.....	11, 13	40½x2½-50½x3...	L	Ross.....	39, 6	I, Smith....	.....	36x4-36x10.....	.....	50, 80	388
390	W, Own.....	N	S	2, R	10½, 9½	C, E	R, Own.....	½, ½	.....	11, 12	42½x3-46x3....	L	Own.....	56, 0	I.....	156	36x5-36x5d.....	7,000	52, 72	390
391	W, Own.....	N	B	2, R	12, 9	C, E	P.....	½, ½	.....	9, 14	42x3-54x3.....	R	Ross.....	55, 0	S.....	150	36x5-36x5d.....	6,900	62, 75	391
392	W, Sheldon.....	....	.....	2, R	.....	....	R, Own.....	½, ½	Sheldon....	.....	.....	L	Ross.....	.....	W, Hoopes..	158½	36x5-36x5d.....	4,800	—, 62	392
393	W, Sheldon.....	....	.....	2, R	.....	....	R, Own.....	½, ½	Sheldon....	.....	.....	L	Ross.....	.....	W, Hoopes..	170	38x7p-42x9p.....	5,580	—, 61	393
393a	W, Sheldon.....	N	W	2, R	11, 9½	E, E	P, Detroit.....	½, ½	Sheldon....	9, 14	42x2½-53x3....	L	Lavine...	52, 0	W, Bimel...	155	36x5-36x5d.....	6,000	48, 67	393a
393b	W, Sheldon, W21.	Y	B	2, R	—, 9½	E, E	R.....	½, ½	Sheldon....	9, 12	42x2½-54x3....	L	Lavine...	40, 0	W, Schwars	156	36x4-36x8.....	5,500	49, 70	393b
394	W, Sheldon, W21..	Y	W	2, R	10½, 9	E, E	P.....	½, ½	Sheldon....	10, 11	42x3-58x3½....	L	Gemmer..	46, 2	I, Smith....	175	36x5-36x5d.....	6,000	40, 70	394
395	I, Own.....	Y	W	2, R	14, 14	C, C	P.....	½, ½	Perfection..	.....	48x3-52x4.....	L	Ross.....	48, 0	S, Dayton..	168	38x7p-42x9p.....	6,000	50, 75	395
396	I, Own.....	N	BS	2, R	10¼, 10½	C, E	R.....	½, ½	.....	.....	.....	L	Own.....	61, 0	S.....	1743	6x5-40x5d.....	7,075	54, 70	396
397	W, Timken, 6652..	Y	W	2, R	11, 10	E, E	P, Savage.....	½, ½	Detroit....	11, 16	40x3-50x3½....	L	Ross.....	.....	I, Smith....	187	36x5-40x5d.....	6,600	—, 76	397
398	W, Timken, 6652..	N	B	2, R	8, 9½	E, E	P.....	½, ½	Detroit....	11, 14	42x3-54x3½....	L	Ross.....	58, 0	W, Bimel...	168	36x5-40x10.....	6,600	50, 70	398
398a	W, Sheldon, W31	N	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	12, 17	46x3-60x3½....	L	Ross.....	.....	W.....	160	36x5-36x5d.....	.....	55, 75	398a
399	W, Timken.....	....	.....	2, R	.....	C, E	P, Parish.....	....	Tuthill....	.....	.....	L	Ross.....	.....	S, Clark....	166	36x6-36x10.....	.....	.....	399
400	W, Timken, 1631B	N	W	2, R	10, 9	E, E	.....	½, ½	Mather....	8, 13	48x3-60x3.....	L	Ross.....	58, 0	W, St. Marys	156	36x5-36x5d.....	7,200	60, 80	400
401	W, Timken, 6652..	Y	B	2, R	.....	E, E	P.....	½, ½	Spring Perch	11, 14	41½x3-56x3½....	R	Gemmer..	59, 10	W, Archibald	167½	36x5-40x5d.....	6,720	.....	401
402	W, Timken, 6652..	N	W	2, R	9, 10	E, E	R, Own.....	½, ½	Tuthill....	9, 12	42x3-54x3½....	L	Ross.....	.....	W, Schwars.	176	36x5-40x5d.....	6,500	55, 75	402
403	I, Clark.....	N	B	2, R	11, 11	C, E	R.....	½, ½	Mather....	8, 12	44x3-56x3½....	L	Lavine...	64, 0	S, Clark....	160	36x5-40x5d.....	6,800	50, 80	403
404	I, Russel, UI300...	Y	B	2, R	12½, 14½	C, E	P, Detroit.....	½, ½	Mather....	10, 14	44x2½-56x3½....	L	Lavine...	55, 0	I, Smith....	164	36x5-40x5d.....	4,960	27, 90	404
405	W, Timken, 6660..	N	B	2, R	.....	E, E	P, Parish	½, ½	Merrill....	12, 15	44x2½-52x3½....	L	Gemmer..	.....	I, Smith....	164	36x5-36x5d.....	6,430	60, 82	405
405a	W, Wisc., 900D...	Y	B	2, R	11½, 9	E, E	R.....	½, ½	Spring Perch	.....	42x3-56x3½....	L	Ross.....	56, 0	S, Detroit..	168	36x5-36x10.....	6,400	55, 80	405a
406	W, Timken, 6660..	Y	B	2, R	9½, 8½	E, E	R, Own.....	½, ½	Mather....	10, 15	40x2½-54x3....	L	Gemmer..	.....	W, Standard	168	36x5-36x10.....	6,850	60, 75	406
407	W, Timken, 6652..	N	B	2, R	14½, 10½	E, E	P, Parish & B..	½, ½	Perfection..	9, 13	44x3-54x3½....	L	Ross.....	65, 0	I, Smith....	190	36x5-40x10.....	7,000	60, 78	407
408	W, Own.....	Y	B	2, R	11½, 10½	E, E	R, Savage.....	½, ½	Perfection..	8, 15	44x3-56x3½....	L	Ross.....	60, 0	W, Prudden.	160	36x5-36x10.....	6,450	50, 80	408
409	W, Sheldon, W31.	Y	B	2, R	11, 9	E, E	P, Savage.....	½, ½	Iron City..	11, 17	42x2½-56x3	L	Gemmer..	59, 0	W, Jones...	165	36x5-36x5d.....	5,750	60, 70	409
410	I, Clark, 3.....	Y	B	2, R	13½, 11½	C, E	P, Detroit.....	½, ½	Detroit....	8, 18	42x3-54x3½....	L	Ross.....	56, 8	I, Smith....	170	36x5-36x10.....	6,890	56, 78	410
411	W, Timken, 6660..	Y	W	2, R	.....	E, E	P, Smith.....	½, ½	Mather....	8, 15	46x3-56x3.....	R	Gemmer..	.....	S.....	170	36x5-36x5d.....	7,250	50, 90	411
412	W, Timken, 6652..	Y	W	2, R	9½, 9	E, E	P, Smith.....	½, ½	Rowland...	9, 15	42x3-56x4.....	L	Ross.....	60, 0	I, Smith....	154	36x5-36x10.....	6,750	86, 70	412
413	I, Own.....	N	S	4, FR	15, 15	C, C	P, Parish & B..	½, ½	Tuthill....	6, 8	41½x3-41½x3....	L	Wohlrab..	60, 0	W, Prudden.	130	36x8-36x8.....	3,800	40, 60	413
414	W, Timken.....	....	.....	2, R	.....	....	P.....	....	.....	.....	.....	...	.....	.....	.....	168	36x5-40x5d.....	.....	.....	414
415	W, Timken, 6652..	N	B	2, R	14½, 8⅝	E, E	P, Own.....	½, ½	Mather....	7, 13	44x3-60x3½....	L	Ross.....	59, 8	W, Prudden.	172	36x5-36x5d.....	7,300	53, 69	415
416	W, Timken, 6660..	N	B	2, R	10, 8	E, E	P.....	½, ½	Mather....	8, 12	44x3-56x3½....	L	Gemmer..	48, 10	I, Smith....	156	36x5-36x5d.....	7,000	62, 75	416
417	W.....	N	B	2, R	.....	E, E	P.....	½, ½	.....	9, 14	48x3-56x3½....	L	Ross.....	.....	W.....	128	36x5-40x5d.....	7,235	.....	417
418	W.....	Y	B	2, R	.....	E, E	P.....	½, ½	.....	9, 17	42x3-56x3½....	L	Ross.....	58, 0	I.....	162	36x5-36x5d.....	7,550	.....	418
419	W, Timken, 6652..	Y	W	2, R	9, 10½	E, E	P.....	½, ½	Detroit....	10, 14	44x3-58x4.....	L	Ross.....	46, 0	W, Prudden.	162	36x5-40x5d.....	7,000	50, 20	419
420	W, Sheldon, W30..	Y	B	2, R	10, 8½	E, E	R.....	½, ½	Sheldon....	9, 15	44x3-60x4.....	R	Ross.....	.....	W, Wayne..	176	36x5-36x5d.....	6,000	40, 70	420
421	W, Timken, 6652..	N	B	2, R	12½, 10½	E, E	R, Own.....	½, ½	Detroit....	10, 12	44x3-54x4.....	L	Jacox....	55, 0	S, Own	163	36x5-40x5d.....	7,540	56, 75	421
422	W, Standard.....	Y	B	2, R	.....	E, E	P, Own.....	½, ½	Perfection..	.....	46x3-62x3½....	L	Ross.....	61, 0	S, Smith....	156	36x5-40x5d.....	8,350	76, 91½	422
423	W, Timken, 6652..	Y	W	2, R	9, 8	E, E	R.....	½, ½	Detroit....	12, 16	45x2½-54x3½....	L	Gemmer..	.....	I, Smith....	144	36x5-36x5.....	6,825	25, 80	423
424	W, Sheldon.....	....	.....	2, R	.....	E, E	R, Own.....	....	Sheldon....	.....	.....	L	Ross.....	.....	W, Schwars.	160	36x5-36x5d.....	.....	.....	424
425	W, Timken.....	....	.....	2, R	.....	....	.....	½, ½	Tuthill....	.....	.....	...	Ross.....	.....	W.....	160	36x5-36x5d.....	.....	.....	425
426	W, Hindley.....	....	.....	2, R	.....	E, C	P, Savage.....	½, ½	Perfection..	.....	.....	...	Ross.....	.....	W, Wayne..	156	36x5-36x5d.....	.....	.....	426
427	W, Sheldon, W31..	N	B	2, R	11½, 8½	E, E	R.....	½, ½	Sheldon....	9, 14	40x3-50x3½....	L	Wohlrab..	54, 0	I, Smith....	160	36x5-36x5d.....	7,150	66, 75	427
428	I, Own.....	....	B	2, R	.....	E, E	P.....	½, ½	.....	10, 14	42½x3-57½x4....	L	Own.....	.....	W.....	162	36x5-40x10.....	7,500	50, 68	428
429	B, Own.....	....	.....	4, FR	.....	E, C	P, Castle.....	....	Spring Perch	.....	.....	R	Ross.....	.....	W, Standard	150	36x7-36x7.....	.....	.....	429
430	I, Clark, 3D.....	Y	B	2, R	11½, 12	C, E	P.....	½, ½	Perfection..	11, 13	46x3-62x3½....	L	Jacox....	62, 6	S, Clark....	165	36x5-36x10.....	6,400	50, 75	430
431	W, Sheldon, W31..	N	W	2, R	10, 9½	E, E	R.....	½, ½	Sheldon....	9, 14	42½x3-56x3½....	L	Ross.....	36, 0	I, Smith....	160	36x5-36x5d.....	8,000	—, 80	431
432	C, Own.....	N	B	2, R	11½, 15½	E, E	P.....	½, ½	Perfection..	11, 15	46½x3-54x3	L	Gemmer..	56, 0	W.....	150	36x5-36x5d.....	9,285	50, 90	432

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7,000 (Kelly-Springfield—10,000 (Diamond T) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horsepower.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	7,000 Pounds—Con.																			
433	Kelly-Sp'gf'ld,K41 (int.)	.....	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	433
434	Kelly-Sp'gf'ld,K42(w'm)	.....	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	434
435	Kissel, Heavy Duty	4,475	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	435
436	Kleiber, C	4,900	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'rn'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	436
437	K-Z	4,200	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	437
438	Larrabee, 8L	.....	Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	438
439	Maccar, M-2	4,500	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L, 50	S, 4	Brown-L, 50	N	Spicer	439
440	Mack, AC	4,950	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	440
441	Mapleleaf, CC	.....	Hinkley, HA200	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	441
441a	Master, E (int)	4,640	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	441a
442	Master, A, (worm)	4,190	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	442
443	Menominee, G	.....	Continental, E4	4	4½x5½-32.4	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	443
444	National, IA	.....	Waukesha,NU4R	4	4½x5½-32.4	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 50	N	Spicer	444
445	Nelson & LeMoon, F3½	.....	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-Lipe	S, 4	Brown-L, 50		Thermoid	445
446	Noble, E70	.....	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 4	Warner, T53			446
447	Northway, B3	4,400	Own	4	4x6-25.6	FS	Pierce	P	C, G & O	Y	Stromberg	G	B	Y½	M, Fuller	S, 4	Fuller, GU6	N	Spicer	447
447a	O. K., M	4,150	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T,R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller, H			447a
448	Old Reliable, C	4,000	Wisconsin, UU	4	4½x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	448
448a	Oneida, D9	4,345		4	4½x5½-32.4	F	Own	P	C, Moline	Y	Stromberg	G	M, Bosch	N	M	S, 4		N	Spicer	448a
448b	Orleans			4	4½x6-32.4			P	T	N	Master	G	M, Eisemann	N	M	I, 4	Cotta			448b
449	Paige, 51-18	.....	Hinkley, HA200	4	4½x5½-32.4		Simplex	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L	N	Spicer	449
450	Parker, J20	4,400	Wisconsin, VAU	4	4½x6-32.4	F	Monarch	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Warner, T53	N	Kinsler-B	450
451	Republic, 20	.....	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, Own	N	Stromberg	G	M		M, Fuller	S, 4	Fuller, GU5	N	Hartford	451
452	Reynolds, 7A	4,800	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	452
453	Royal	4,200	Wisconsin	4	4½x6-32.4		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			453
454	Sandow, M	4,395	Continental, E4	4	4½x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	454
455	Sanford, W35	4,200	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	455
456	Schacht	.....	Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 8	Own	N	M & E	456
457	Selden, 3½A	.....	Continental, E7	4	4½x5½-32.4	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	457
458	Service, 71	4,285	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	458
459	Service, 76	4,485	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	459
460	Signal, M	4,275	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	460
461	Standard, 66	.....	Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	461
462	Sterling	4,650	Own	4	4½x6½-32.4	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	462
463	Stewart, 10	3,895	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU4	Y	Hartford	463
464	Sullivan, H	4,650	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Bush	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Spicer	464
465	Super, 70	.....	Wisconsin, UAU	4	4½x6-28.9	F	Simplex	P	T, Chicago	Y½	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	465
466	Tiffin, PW	4,175	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Own	Y½	Schebler	G	M, Eisemann	N	P, Borg & B	S, 4	Fuller, G	Y	Peters	466
467	Titan	4,550	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, R	N	M & E	467
468	Tower, G	4,400	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Own	N		G	M	N	M, Fuller	S, 4	Fuller, G	N		468
469	Twin City	4,750	Wisconsin, JAU	4	5½x6-42.0	F	Pierce	P	C		Stromberg		K-W		M, Hele-Shaw	I, 3	Cotta			469
470	United, C	.....	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			470
471	Universal, L	.....	Buda	4	4½x5½-28.9		Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			471
472	U. S., J	3,950	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Long		Stromberg		M, Eisemann		C, Hartford	S, 4	Brown-L, 60			472
473	Victor, M	3,800	Continental, E4	4	4½x5½-32.4	FS		P	Own		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-Lipe			473
474	Walter, (Wis.), MO3	.....	Own	4	4½x6-30.6	FS	Own	P	T, Own		Zenith		M, Swiss		C, Own	S, 4	Own			474
475	Ward LaFrance, 4A	4,490		4	4½x6½-32.4	F		P	T, Own	Y	Zenith	G	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	475
476	Watson, 18		Continental, E4	4	4½x5½-32.4	S	Pierce	P	T,R'e-T'r'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	476
477	Wichita, O	4,000	Beaver, JB	4	4½x6-28.9	F	Duplex	P	C, E & M	Y	Stromberg	G	M		M	I, 4	Cotta	N	Thermoid	477
478	Wilcox, D	.....	Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		478
479	Wilson	3,950	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	479
480	Winther, 70	4,200	Wisconsin, TAU	4	4x6-25.6	F	N	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	480
	8,000 Pounds:																			
481	Bessemer, K2	4,285	Continental, E7	4	4½x5½-32.4	S	Pierce	P	C, Standard	Y	Rayfield	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	481
482	Gabriel, F	4,300	Buda, YU	4	4½x6-32.4	F	Duplex	P	T, G & O		Rayfield		M, Bosch		P, Borg & B	S, 4	Brown-L, 60			482
483	Highway-Knight, A	.....	Moline-K., W	4	4x6-25.6	F		P	T, Own	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Own	N	Thermoid	483
484	Jumbo, 40		Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	484
485	Kimball, E	4,975	Wisconsin, JU	4	5 1-10x5½-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	485
486	Moreland, 19G	4,875	Cont'l, Class B	4	4½x6-36.0	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	486
488	Packard, E	4,550	Own	4	4½x5½-32.4	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	488
489	Riker, BB		Own	4	4½x6-28.9	S	Own	P	T	N	Ball & Ball	G	M, Berling	N	C, Own	S, 4	Own	N	Own	489
489a	Rowe, HW	4,350	Wisconsin	4	4½x6-32.4	F	Simplex	P	Fedders		Zenith		M, Bosch			S, 4	Brown-L		Spicer	489a
490	Union, H	3,975	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	490
490a	U. S. S	.....	Hinkley, HA200	4	4½x5½-32.4	F	Hinkley	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Blood	490a
	10,000 Pounds:																			
491	Acason, M	5,850	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	C, National	Y	Stromberg	G	M, Eisemann	N	M, Detlaff, H8	I, 4	Cotta, S	Y	Blood	491
491a	Acme, E	5,150	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, T	N	Blood	491a
491b	Atterbury, 8E	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Zenith	G	B, M	Y	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	491b
492	Autohorse, 10	2,000	Continental	4	3½x5-22.5		N	P	C, Eureka		Stromberg		M, Eisemann	N	P, Borg & B	S, 3	Detroit			492
493	Available, H5	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer-Bld	493
494	A & B, 5T		Own	4	5½x3½-42.8		N	P	T, Bush		Schebler		M, Bosch		M, Brown-L	S, 4	Brown-Lipe			494
495	Bollstrom, A	.....	Own	4	4½x5½-28.9			P	Own		Stromberg		M, Bosch		M	I, 4	Own		Own	495
496	Brockway, T	5,250	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	496
496a	Chicago, D5		Hercules	4	4½x5½-32.4	F	Simplex	P	T	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-Lipe	N	Peters	496a
497	Clydesdale, 120C	5,500	Continental, B2	4	4½x6-36.1	F	Own	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	497
498	Couple-Gear, AC	6,700	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, F'sm'nn	N	†	†, 6	Own		Own	498
499	Day-Elder, E	4,600	Buda, YU	4	4½x6-32.4	F	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 60	N	Hartford	499
500	Denby, 210	4,900	Continental, E7	4	4½x5½-32.4	F	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Own	S, 4	Warner, T53	N	Peters	500
501	Diamond T, S	5,900	Class B, U. S	4	4½x6-36.1	FS	Pierce	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	501

† Electric Transmission

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TRUCK SPECIFICATIONS

7,000 (Kelly-Springfield)—10,000 (Diamond T)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds). Perc. of weight on rear axle when empty & when loaded.	Line no.
433	I, Clark	N	B	2, R	9½, 13½	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	433
434	W, Standard	N	B	2, R	9½, 11	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	434
435	W, Sheldon, W30	Y	W	2, R	10½, 8½	E, E	P, Smith	½, ½	Mather	11, 12	44x3-62x3½	L	Ross	50, 0	I, Smith	168	36x5-36x5d	7,200	57½, 74½	435
436	W, Timken, 6652	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 14	44x3-52x3	R	Ross		W, W't'rh'se	163	36x5-36x10	7,200	50, 75	436
437	W, Timken, 6652	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	8, 12	42x3-52x3½	L	Lavine	66, 4	S, Standard	156	36x5-36x5d	6,500		437
438	W, Sheldon, W30	Y	B	2, R	14, 9	E, E	P, Parish & B	½, ½	Merrill	10, 15	44x3-56x3½	L	Ross		W, Hoopes	160	36x5-36x5d	6,850	44, 88	438
439	W, Timken, 6652	N	B	2, R	9 ½, 8½	E, E	P, Parish	½, ½	Merrill	9, 14	42x2½-56x3½	L	Ross		S, Dayton	174	36x5-36x5d	6,175	—, 70	439
440	C, Own	N	B	2, R	11½, 10½	C, E	P, Own	½, ½	Merrill	9, 10	46x3½-52x4	L	Own	52, 6	W, Own	Opt.	36x5-36x5d	8,070	46, 66	440
441	W, Sheldon, W31	Y	B	2, R	10, 8½	E, E	R, Own	½, ½	Sheldon	–, 15	46x3-56x4	L	Ross		W, Hayes	160	36x5-36x5d	7,000	50, 70	441
441a	I, Walker	Y	BS	2, R		C, E	P, Parish & B	½, ½	Detroit	12, 15	44x3-58x4	L	Ross	48, 0	S	158	36x5-40x5d	7,000	58, 72	441a
442	W, Timken, 6652	Y	B	2, R	11½, 10½	E, E	P, Parish & B	½, ½	Detroit	12, 15	44x3-58x4	L	Ross	48, 0	S	158	36x5-40x5d	7,000	58, 72	442
443	W, Timken, 6652	N	B	2, R		E, E	R, Own	½, ½	Tuthill	11, 11	44x2½-54x3½	L	Ross		W, Standard	160	36x5-36x5d	6,650		443
444	W, Timken, 6560	N	W	2, R	9½, 10½	E, E	R	½, ½	Mather	9, 17	46x3-58x3½	L	Ross	54, 0	W, Hayes	158	36x5-40x5d	7,000		444
445	W, Timken, 6652	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x5-36x5d			445
446	W, Sheldon, W30			2, R		E, E	P, Slick-Knox	½, ½	SpringPerch				Lavine		W, Bimel	166	36x5-36x5d	7,500		446
447	W, Sheldon, W30	Y	B	2, R	10, 10½	E, E	P, Parish & B	½, ½	Perfection	10, 12	44x3-56x4	L	Ross	50, 0	S, Clark	160	36x5-40x5d	7,300	51½, 73	447
447a	W, Wisc., 900			2, R		E, E	P, Hydraulic	½, ½	Liggett				Ross		W, Bimel	154	36x5-36x6d			447a
448	W, Sheldon, W30	Y	W	2, R	11½, 8½	E, E	R	½, ½	Sheldon	10, 16	48x3-60x4	R	Ross		W, St. Marys	160	36x5-36x5d	6,850	—, 77	448
448a	W	N	B	2, R	11, 8½	E, E	P, Detroit	½, ½	Mather	11, 12	44x3-56x3½	L	Ross		S	170	36x5-36x10	7,250	60, 85	448a
448b	W	N		2, R		E, E	R	½, ½			44x3-56x3½		Ross		I, Smith	166	36x4½-36x4d			448b
449	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	9, 14	46x3-58x4	L	Ross		S, Dayton	160	36x5-36x5d	7,000	60, 75	449
450	W, Own	N	B	2, R	14, 11	C, E	P, Smith	½, ½	Tuthill	8, 16	51x3-60x3	L	Ross	64, 0	W, Bimel	160	36x5-40x5d	6,300	55, 76½	450
451	I, Torbensen, E1	Y	W, Powrlok	2, R		C, E	P, Detroit	½, ½	Mather	8, 13	44½x3-52½x4	L	Jacox		I, Smith	165	36x5-36x10	6,400		451
452	W, Sheldon	Y	B	2, R	9½, 9½	E, E	R, Standard	½, ½	Perfection		44x3-56x3½	L	Lavine		I, Smith	156	36x5-36x5			452
453	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	158	36x5-38x5d			453
454	W, Timken, 6652	N	W	2, R	8½, 8½	E, E	P, Savage	½, ½	Garden City	9, 17	44x3-56x3½	R	Ross	40, 0	W, Standard	175	36x5 36x5d	6,650	20, 70	454
455	W, Sheldon, W30	Y	W	2, R	10½, 8½	E, E	P, Parish & B	½, ½	Perfection	9, 13	46x3-54x3½	L	Ross	50, 0	W, Hoopes	174	36x5-36x5d	6,900	76, 87	455
456	W, Own	N	B	2, R	10½, 9	C, E	R, Own	½, ½	National	9, 15	35x2½-50x3	L	Own		W, St. Marys	168	36x5-36x5d	6,500	—, 70	456
457	W, Timken, 6652	N	B	2, R	9½, 8 15/16	E, E	P, Parish & B	½, ½	Perfection	10, 14	42x3-56x3½	R	Gemmer	62, 0	S	162	36x5-36x10	7,200	60, 78	457
458	W, Timken, 6652	N	B	2, R	9½, 7½	E, E	P, Own	½, ½	Mather	11, 13	46x3-60x3½	L	Ross	52, 0	S	171	36x5-36x5d	6,950	—, 72	458
459	W, Timken, 6652	N	B	2, R	9½, 7½	E, E	P, Own	½, ½	Mather	11, 13	46x3-60x3½	L	Ross	52, 0	S	171	36x5-36x5d	7,280	—, 72	459
460	W, Timken, 6652	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	11, 16	44x3-56x3½	L	Ross	61, 0	W, Hayes	168	36x5-40x10	7,070	—, 84	460
461	W, Timken, 6660	N	B	2, R	9½, 8½	E, E	P, Parish & B	½, ½	Perfection	10, 15	45½x3-52½x3½	L	Gemmer		W	160	36x5-36x5d	6,480	57, 70	461
462	W, Timken, 6652	N	W	2, R	11½, 10½	E, E	P, W	½c, ½c	Mather	8, 10	48x3-60x3½	L	Ross	53, 6	W, Prudden	162	36x5-40x5d	8,300	53, 92	462
463	I, Clark, 3D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	10, 14	41x2½-54x4	L	Ross	52, 0	S, Clark	165	36x5-36x5d	6,080	64½, 80½	463
464	W, Timken, 6652	N	B	2, R	9½, 8½	E, E	P	½, ½	Sheldon	9, 13	46x3-56x3½	L	Ross	58, 6	W, Wayne	170	36x5-36x5d	6,000	50, 68	464
465	W, Sheldon, W30	Y	B	2, R	12, 12½	E, E	P	½, ½	Sheldon	10, 11	44x3-58x4	L	Ross	50, 0	S	164	36x5-40x5d	7,300		465
466	W, Sheldon, W31	N	B	2, R	10, 9	E, E	R	½, ½	Kalamazoo	9, 16	42x3-52x3½	L	Ross	62, 0	I, Smith	160	36x5-40x5d	6,950	40, 60	466
467	I, Clark, 3	N	B	2, R	12, 16	E, C	P, Parish & B	½, ½	Sheldon	9, 11	48x3-60x3½	L	Lavine	50, 0	S, Dayton	156	36x5-40x5d	7,350	57, 80	467
468	W, Timken	N	B	2, R	10½, 10½	E, E	P	½, ½	Detroit		44x3-56x3½	L	Ross		W	165	36x5-36x5d	7,010	—, 70	468
469	I			4, FR				½, ½					Ross			140	36x6-36x6			469
470	I, Clark, 3D			2, R		E, C	P, Detroit	½, ½	Detroit				Lavine		S	157	36x5-36x5d			470
471	C, Own			2, R		E, E	R	½, ½	Kalamazoo				Lavine		W	156	36x5-36x5d			471
472	W, Sheldon, W30			2, R		E, E	R, Own	½, ½	Sheldon				Lavine		W, Schwars	162	36x5-40x5d			472
473	W, Timken			2, R				½, ½					Gemmer			176	36x6-36x5d			473
474	E, Own			4, FR		C, C	R, Own	½, ½					Own		S, Own	108	40x4d-40x4d			474
475	W, Timken, 6652	N	W	2, R	10½, 8 5/16	E, E	P, Detroit	½, ½			46x3-60x3½	L	Ross		I, Smith	162	36x5-36x5d	7,750	—, 85	475
476	W, Empire, 12	Y	B	2, R	12½, 6½	E, E	P, Parish	½, ½	Sheldon	11, 12	44x3-56x3½	L	Gemmer		W, Crane	168	36x5-36x10	6,950		476
477	W, Sheldon, W30	Y	W	2, R	10, 8½	E, E	P, Own	½, ½	Detroit		56x2½-56x3	R	Ross		S	165	36x5-36x5d	7,200		477
478	W, Sheldon, W30	Y	B	2, R		E, E	P	½, ½	Own	10, 12	40x2½-60x4	L	Own		I, Smith	154	36x5-36x5d	6,400	25, 75	478
479	W, Timken, 6652	Y	B	2, R	9½, 8½	E, E	R, Own	½, ½	Perfection	11, 17	46x3-60x3½	L	Ross		W	160	36x5-36x5d	6,800	60, 80	479
480	I, Clark, 3D	Y	B	2, R	11½, 12	C, E	R, Own	½, ½	Mather	8, 10	46x3-56x4	R	Ross	62, 0	S, Clark	150	36x5-36x5d	6,400	45, 80	480
481	I, Torbensen, E	N	B	2, R	11, 11	E, C	P	½, ½	Perfection	10, 12	44x3-56x3½	L	Ross		W, Schwars	175	36x5-36x10	6,700	54, 69	481
482	W, Timken, 6652			2, R		E, E	P, Parish	½, ½	Merrill				Gemmer		I, Smith	180	36x5-40x5d			482
483	W	Y		2, R	11, 10	E, E	P	½, ½	Sheldon		46x3-56x3½	L	Ross		W, Schwars	159	36x5-36x6d	7,200		483
484	I, Clark, 3D	Y	B	2, R	13½, 16½	C, E	P	½, ½	Perfection	10, 13	46x3-62x3½	L	Jacox	62, 6	S, Clark	165	38x7p-44x10p	6,800	50, 75	484
485	W, Sheldon, W30	Y	B	2, R		E, E	P	½, ½	U. S	12, 16	45½x3-53½x3½	L	Ross	39, 6	I, Smith		36x5-40x10		50, 80	485
486	W, Timken, 6652	N	W	2, R	9½, 11½	E, E	P	½, ½	U. S	9, 12	50x3-50x4	L	Ross		I, Smith	162	36x5-40x5	7,800	55, 67	486
488	W, Own	N	S	2, R	10½, 10½	C, E	R, Own	½, ½		11, 14	42½x3-46x3	L	Own	56, 0	W	156	36x5-40x5d	7,460	55, 75	488
489	W, Own	N	B	2, R	12, 9	C, E	P	½, ½		9, 17	42x3-54x3	R	Ross	55, 0	S	150	36x5-36x6d	7,200	63, 77	489
489a	W, Sheldon			2, R		E, E		½, ½	Sheldon				Ross		W, Hoopes	156	36x5-36x6d	6,370	—, 75	489a
490	I, Torbensen, E	Y	B	2, R	13, 12	C, C	P, Own	½, ½	Mather	8, 15	42x3-56x4	L	Ross		I, Smith	171	36x6-36x10		50, 70	490
490a	W, Sheldon, W31	Y	B	2, R	11½, 8½	E, E	P	½, ½	Sheldon	9, 10	44x3-56x3½	L	Lavine	60, 0	W, Schwars	168	36x5-36x10	7,600	51, 70	490a
491	W, Timken, 6752	Y	W	2, R	11, 10	E, E	P, Savage	½, ½	Detroit	12, 18	40x3-50x4	L	Ross		I, Smith	187	36x6-40x6d	8,350	—, 77	491
491a	W, Timken, 6760	N	B	2, R	9, 9½	E, E	P	½, ½	Detroit	11, 17	44x3-56x4	L	Ross	64, 0	I, Smith	180	36x6-40x12	8,800	50, 70	491a
491b	W, Timken, 6752	N	B	2, R		E, E	P	½, ½	Spring Perch	10, 12	41½x3-54x4	L	Gemmer	59, 10	S, Dayton	167½	36x5-40x6	9,350		491b
492	I, Own			1, F		C, E	R, Own		Champion				Own		W, Bimel	43	34x10			492
493	W, Timken, 6752	N	W	2 R	9, 10	E, E	R, Own	½, ½	Tuthill	9, 15	44x3-60x4	L	Ross		I, Smith	190	36x6-40x12	9,500	55, 75	493
494	I, Own			2, R		C, C	R, Own	½, ½	Perfection				Gemmer		W	144	48x3½d-48x5d			494
495	I, Own			2, R		C, C	R, Own					L	Gemmer		S, Clark	144	36x6-36x6			495
496	W, Timken, 6752	N	B	2, R		E, E	P, Parish	½, ½	Merrill	12, 17	44x3-58x4	L	Gemmer		I, Smith	174	36x6-40x6d	9,075	60, 90	496
496a	W, Timken, 6752	Y	B	2, R	9, 10	E, E	R	½, ½			44x3-56x4	L	Gemmer	42, 0	Optional	167	36x6-40x12	8,110	56, 80	496a
497	W, Timken, 6752	N	B	2, R	13½, 9½	E, E	P, Parish & B	½, ½	Perfection	11, 18	44x3-56x4	L	Ross		I, Smith	204	36x6-40x12	9,100	65, 76	497
498	B, Own	N		4, FR	11, 11	E, E	R	½, ½	Tuthill	12, 12	43x3-43x3	R	Own	36, 0	S, Own	144	36x5-36x5	11,000	50, 50	498
499	W, Sheldon, W51	Y	B	2, R	10½, 10½	E, E	P, Savage	½, ½	Iron City	12, 13	48x3-60x4	L	Gemmer	54, 0	I, Smith	150	36x5-40x6d	8,250	60, 70	499
500	I, Clark, W100	Y	B	2, R	13½, 13½	E, E	P, Detroit	½, ½	Detroit	10, 18	42x3-54x4	L	Ross	62, 0	S, Russell	170	36x6-40x12	8,590	58, 80	500
501	W, Timken, 6760	Y	W	2, R		E, E	P, Smith	½, ½	Mather	10, 14	46x3-56x4	L	Gemmer		S	180	36x6-40x6d	8,790	50, 90	501

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10,000 (Diamond T)—15,000 INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	10,000 Pounds—Con.																			
501a	Diamond T, EL	5,675		4	4½x5½-32.4	FS		P	T, G & O	N	Stromberg	G	M, Bosch	N	M	S, 4			Spicer	501a
502	Fageol	5,300	Waukesha, DU	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	502
503	Federal, XE	4,750	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner	N	Spicer	503
504	Garford, 68	5,000		4	4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		504
505	Gary, M	5,150	Buda, BTU	4	5x6½-40.0	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	505
506	GMC, 101A		Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	506
507	Gramm-Bernstein, 50	5,875	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	507
508	Hall (chain)	4,850	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	508
509	Hall (worm)	4,850	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	509
510	Harvey, WKA	5,200	Buda	4	4½x6-32.4	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe			510
511	Highway-Knight, B		Moline-K., W	4	4x6-25.6	F		P	T, Own	N	Zenith	G	M, Eisemann	Y	M, Brown-L	S, 4	Own	N	Thermoid	511
512	Hurlburt, D	5,250	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60			512
513	Indiana, 50	5,075	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	513
514	Kelly-Springfield, K50	5,150	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	514
515	Kimball, F	5,975	Wisconsin, JAU	4	5½x6-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	515
516	Kissel, Goliath	5,085	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	516
517	Kleiber, D	5,600	Continental, T	4	5½x5½-44.1	S	Pierce	P	T, R'e-T'rn'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	517
517a	Koehler, MT	3,450	Hercules	4	4 x5½-25.6						Zenith	G	M, Eisemann		P	S, 3				517a
518	Larrabee, T		Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	518
519	Mack, AC	5,500	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	519
520	Mapleleaf, DD		Hinkley, HA1600	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, H	N	Blood	520
520a	Master, F (int)	5,540	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	520a
521	Master, B (worm)	5,290	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	521
522	Menominee, J		Wisconsin, A	4	4½x5½-36.1	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	522
523	Moreland, 19J	5,350	Cont'l, Class B	4	4½x6-36.1	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	523
524	National, JA		Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 60	N	Spicer	524
525	Nelson & LaMoon, F5		Continental, B2	4	4½x6-36.1	F	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Thermoid	525
526	Old Reliable, D	5,000	Wisconsin, J	4	5 1-10x5½-42.0	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, SD60	Y	Spicer	526
526a	Oneida, E9	5,460		4	4½x5½-32.4	F	Own	P	C, Modine	Y	Stromberg	G	M, Bosch	N	M	I, 4		N	Spicer	526a
527	Packard, F	5,450	Own	4	5x5½-40.0	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	527
528	Parker, M20	5,500	Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Warner, T53-1	N	Kinsler-B	528
530	Pierce-Arrow, R9	5,500	Own	4	4½x6-38.2	F	Own	P	T, Own	N	Stromberg	G	M, Splitdorf	N	C, Own	S, 3	Own	Y	Own	530
531	Reynolds, 10A	5,800	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	531
532	Rowe, FW	5,390	Wisconsin, AU	4	4½x6-32.4	F	Simplex	P	C, Fedders		Zenith		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Spicer	532
533	Royal	5,000	Wisconsin	4	4½x5½-36.1		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			533
534	Sandow, L	5,175	Continental, E4	4	4½x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	534
535	Sanford, W50	5,100	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	535
536	Schacht		Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 8	Own	N	M & E	536
537	Schwartz, D	4,500	Buda, YTU	4	4½x6-32.4	F	Simplex	P	C, Fedders	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	537
538	Selden, 5A		Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Detlaff	S, 4	Brown-L, 60	Y	Spicer	538
539	Service, 101	5,275	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	539
540	Signal, R	5,300	Continental, B2	4	4½x6-361	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	540
541	Standard, 86		Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	541
542	Sterling (chain)	6,000	Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	542
543	Sterling, (worm)	5,500	Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	543
544	Super, 100		Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Hilliard	S, 4	Savage, SD60	Y	Spicer	544
545	Tiffin, TW	5,250	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, 8	Y	Peters	545
546	Titan	5,400	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, 8	N	M & E	546
547	United, V		Buda, YU		4½x6-32.4	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60			547
548	U. S., K	4,850	Waukesha, P	4	4½x6½-36.1	F	Waukesha	P	T, Long		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-L, 60			548
549	Walter, (N. Y.), S	5,500	Waukesha, DU	4	4½x6½-32.4	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Warner, T53		M & E	549
550	Ward LaFrance, 5A	5,490		4	5x6½-40.0	F		P	T, Own	Y	Zenith	G	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	550
551	White, 45	5,000	Own	4	4½x5½-28.9	F	Own	P	T, Own	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	551
551a	Wichita, S	5,000	Beaver, JA	4	4½x6-32.4	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	S, 4	Own	N	Thermoid	551a
552	Wilcox, W		Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Own	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		552
553	Wilson	4,800	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	553
554	Winther, 109	5,250	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	554
	11,000 Pounds:																			
554a	Aetna	5,375	Wisc., RBU	4	5 x6-40.0	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, T	N	Spicer	554a
555	Maccar, G-1	5,500	Wisc., RBU	4	5x6-40.0	F	Pierce	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Brown-L, 60	S, 4	Brown-L, 60	N	Spicer	555
	12,000 Pounds:																			
556	Doane	5,350	Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, Own		Master		M, Bosch		M, Brown-L	S, 3				556
557	Kelly-Springfield, K60	5,500	Own	4	4½x—32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	557
558	Packard, G	5,700	Own	4	5x5½-40.0	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	558
559	Royal	5,400	Wisconsin	4	5½x6-42.0		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			559
560	Tiffin, UW	5,450	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	Y	Peters	560
561	United, T		Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Muncie, 63			561
561a	U. S. T		Buda, ATU	4	4½x6½-36.1	F	Simplex	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 60	N	Blood	561a
	13,000 Pounds																			
563	Mack, AC	$5,750	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	563
	14,000 Pounds:																			
563a	Available, H7	6,000	Waukesha	4	5x6½-40.0	FS	Waukesha	P	T, Chicago	Y	Stromberg	G	BM, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	563a
564	Couple-Gear, LDC	7,350	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, E'sm'nn	N	†	† 6	Own		Own	564
565	Larrabee, W		Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	565
566	Old Reliable, K	6,000	Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, 6495	Y	Hartford	566
567	Royal	6,500	Wisconsin	4	5½x7-44.2		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			567
568	Winther, 140	5,900	Wisconsin, RBU	4	5 x6-40.0	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	568
	15,000 Pounds:																			
569	Mack, AC	6,000	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	569
570	Sterling	6,500	Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	570

† Electric transmission.

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TRUCK SPECIFICATIONS

10,000 (Diamond T)—15,000

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
501a	W, Timken	Y	W	2, R		E, E	P	½, ½	Mather	10, 14	46x3-56x4	L	Gemmer		S.	180	36x6-40x6d	8,790	50,90	501a
502	W, Timken, 6752..	N	B	2, R	14½, 10¼	E, E	P, Own	½, ½	Mather	9, 16	46x3-60x4	L	Ross	59, 8	W, Prudden.	172	36x6-40x6d	8,300	56, 73	502
503	W, Timken, 6760..	N	B	2, R	9, 10	E, E	R	½, ½	Mather	8, 16	44x3-56x3½	L	Gemmer	57, 0	I, Smith	156	36x6-40x6d	8,100	65, 78	503
504	C	N	B	2, R		C, E	P	½, ½		10, 17	48x3-50x3	R	Ross		I, Smith	128	36x6-40x6d	8,870		504
505	W, Timken, 6752..	Y	W	2, R	9, 10½	E, E	P	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	52, 0	S, Dayton	182	36x6-40x6d	8,500	50, 20	505
506	W, Timken, 6752..	N	B	2, R	11½, 10	E, E	R, Own	½, ½	Detroit	10, 16	44x3-54x4	L	Jacox	55, 0	S, Own	163	36x6-40x6d	8,485	56, 75	506
507	W, Standard	Y	B	2, R	12¼, 10½	E, E	P, Own	½, ½	Perfection	10, 16	48x3½-64x4	L	Ross	62, 0	I, Smith	168	36x6-40x6d	9,850	76½, 92½	507
508	C, Timken, 4800..	Y	W	2, R	8, 16	E, E	R	½, ½	Detroit	12 18	45x3-52x3½	L	Gemmer		I, Smith	144	36x5-40x6	7,530	25, 80	508
509	W, Timken, 6752..	Y	W	2, R	8, 9	E, E	R	½, ½	Perfection	12, 18	45x3-52x4	L	Gemmer		I, Smith	144	36x5-40x6	8,400	25, 80	509
510	W, Sheldon			2, R		E, E	R, Own	½, ½	Sheldon				Ross		I, Smith	160	36x6-40x6d			510
511	W	Y		, R	11, 10½	E, E	P	½, ½	Sheldon		46x3-58x4	L	Ross		W, Schwarz	159	36x5-40x6d	8,400		511
512	W, Hindley			2, R		E, C	P, Savage	½, ½	Perfection				Ross		W, Wayne	170	36x5-40x6d			512
513	W, Sheldon, W51..	N	B	2, R	9½, 10½	E, E	R, Illinois	F	Sheldon	10, 15	40x3-50x4	L	Wohlrab	56, 0	I, Smith	167	36x5-40x6d	9,000	66½, 78½	513
514	C, Own	N	B	2, R	11¼, 15½	E, E	P	½, ½	Perfection	11, 14	46½x3-56½x3½	L	Gemmer	56, 0	W	150	36x6-40x6d	9,175	50, 90	514
515	W, Sheldon, W50..	Y	B	2, R		E, E	P	½, ½	U. S.	12, 16	45½x3-53¼x4	L	Ross	39, 6	I, Smith		36x6-40x12		50, 80	515
516	W, Sheldon, W30..	Y	W	2, R	10, 8	E, E	P, Smith	½, ½	Mather	11, 13	44x3-62x3½	L	Ross	50, 0	I, Smith	180	36x6-36x6d	7,900	57½, 74½	516
517	W, Timken, 6752..	N	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	11, 15	50x3-52x4	R	Ross		I, Smith	180	36x6-40x6d	9,200	50, 75	517
517a	W, Timken	Y		2, R												142	36x4-36x7			517a
518	W, Sheldon, W50	Y	B	2, R	14, 10¾	E, E	P, Savage	½, ½	Merrill	12, 17	44x3-58x4	L	Ross		I, Smith	178	36x6-40x6d	8,500	40, 84	518
519	C, Own	N	B	2, R	11½, 10¾	C, E	P, Own	½, ½	Merrill	9, 13	46x3½-52x4	L	Own	52, 6	W, Own	Opt.	36x6-40x6d	8,650	48, 90	519
520	W, Sheldon, W51..	Y	B	2, R	10½, 10½	E, E	R, Own	½, ½	Sheldon	–, 13	46x3-56x4	L	Ross		I, Smith	160	36x6-40x6d	8,600	60, 70	520
520a	I, Walker	Y	BS	2, R		E, E	P, Parish & B	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	50, 0	I, Smith	170	36x6-40x6d	8,000	58, 72	520a
521	W, Timken, 6752..	Y	B	2, R	11, 11¾	E, E	P, Parish & B	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	50, 0	I, Smith	170	36x6-40x6d	8,000	58, 72	521
522	W, Timken, 6752..	N	B	2, R		E, E	R, Own	½, ½	Tuthill	9, 12	44x3-54x4	L	Ross		W, Standard	160	36x6-40x6d	8,500		522
523	W, Timken, 6752..	N	W	2, R	9, 10	E, E	P	½, ½	U. S.	12, 14		L	Ross		I, Smith	162	36x6-40x6	9,400	55, 67	523
524	W, Timken, 6760..	N	W	2, R	9, 10½	E, E	R	½, ½	Mather	11, 19	44x3½-60x4	L	Ross	56, 0	W, Hayes	170	36x6-40x6d	8,650		524
525	W, Timken, 6752..	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x6-40x6d			525
526	W, Sheldon, W50..	Y	W	2, R	10⅜, 10⅜	E, E	R	½, ½	Sheldon	10, 16	48x3-60x4	R	Ross		W, St. Marys	168	36x6-40x6d	8,400	–, 70	526
526a	W	N	B	2, R	11½, 10½	E, E	P, Detroit	½, ½	Mather	11, 12	44x3-60x4	L			S	180	36x6-40x12	9,000	60, 85	526a
527	W, Own	N	S	2, R	11⅜, 9½	C, E	R, Own	½, ½		12, 13	42⅞x3-54x3½	L	Ross	62, 0	S	156	36x6-40x6d	8,650	57, 76	527
528	W, Own	N	B	2, R	14½, 11	C, E	P, Smith	½, ½	Tuthill	8, 14	44x3-60x4	L	Ross	60, 0	I, Smith	160	36x6-40x6d	8,000	58½, 78	528
530	W, Own	N	S	2, R	12, 10½	C, E	P, Parish	½, ½	Spring Perch	11, 16	33x2½-48x3	R	Own	50, 6	W, Own	168	36x5-40x6d	8,450	–, 75	530
531	W, Sheldon	Y	B	2, R	9⅛, 10½	E, E	R, Standard	½, ½	Perfection		44x3-56x4	L	Lavine		I, Smith	176	36x6-40x6			531
532	W, Sheldon, W50..			2, R		E, E	R, Own	½, ½	Sheldon				Ross		W, Hoopes	169	36x6-40x6d	8,240	–, 66	532
533	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x6-40x6d			533
534	W, Timken, 6752..	N	W	2, R	8⅛, 8	E, E	P, Savage	¾, ¾	Garden City	10, 20	44x3-56x3½	R	Ross	41, 0	W, Standard	175	36x6-40x6d	7,950	20, 70	534
535	W, Sheldon, W50..	Y	W	2, R	10¼, 10½	E, E	P, Parish & B	½, ½	Perfection	10, 13	46x3-54x3½	L	Ross	58, 0	I, Smith	174	36x5-40x6d	8,070	75, 81	535
536	W, Own	N	B	2, R	10, 9	C, E	R, Own	½, ½	National	9, 17	35x3-50x3	L	Own		W, St. Marys	168	36x5-40x6d	8,500	–, 70	536
537	I, Torbensen, EI..	Y	B	2, R	9½, 11⅜	E, C	P, Parish	½, ½	Rowland	10, 15	40x3-56x4	L	Ross		I, Smith	170	36x6-36x10	7,600		537
538	W, Timken, 6752..	N	B	2, R	–, 10¼	E, E	P, Parish & B.	½, ½	Spring Perch	11, 15	46x3½-60x4	L	Gemmer	62, 0	S	164	36x6-40x12	9,800	57, 76	538
539	W, Timken, 6752..	N	B	2, R	9, 10⅜	E, E	P, Own	½, ½	Mather	12, 15	46x3-60x3½	L	Ross	56, 0	S	171½	36x6-40x6d	8,760	–, 75	539
540	W, Timken, 6752..	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	11, 18	44x3-56x5	L	Ross	71, 0	I, Smith	180	36x6-40x12	9,510	–, 84	540
541	W, Timken, 6760..	N	B	2, R	9, 10	E, E	P, Parish & B.	½, ½	Perfection		45½x3-52½x4	L	Gemmer		S, Dayton	160	36x6-40x6d	8,100	64, 75	541
542	C, Own	N	S	2, R	11½, —	E, C	P	⅛c, ⅛c	Mather	10, 12	48x3-60x4	L	Ross	47, 9	I, Smith	174	36x6-40x6d	10,000	54, 91	542
543	W, Timken, 6752..	N	W	2, R	11½, 10¾	E, E	P	⅛c, ⅛c	Mather	10, 12	48x3-60x4	L	Ross	47, 2	W, Prudden	168	36x6-40x6d	9,700	53, 92	543
544	W, Sheldon, W51..	N	B	2, R	11½, 12	E, E	P	½, ½	Sheldon	11, 13	44x3-58x4	L	Ross	50, 0	S	164	36x5-40x6d	8,500		544
545	W, Sheldon, W51..	N	B	2, R	9, 10	E, E	R	½, ½	Kalamazoo	10 16	42x3½-53x4	L	Ross	69, 0	I, Smith	168	36x6-40x6d	8,000	40, 60	545
546	I, Clark, 5	N	B	2, R	12, 16	E, C	P, Parish & B	½, ½	Sheldon	9, 13	48x3-60x3½	L	Lavine	50, 0	S, Clark	156	36x5-40x6d	9,100	57, 80	546
547	I, Clark, 5D			2, R		E, C	P, Detroit	½, ½	Detroit				Ross		S	160	36x5-40x6d			547
548	W, Sheldon, W50..			2, R		E, E	R, Own	½, ½	Sheldon				Lavine		S, Dayton	168	36x5-40x6d			548
549	I, Own	Y	W	2, R	14, 14	C, C	P	½, ½	Perfection		48x3-52x5	L	Ross	48, 0	S, Dayton	168	36x6-40x6d	8,000	50, 80	549
550	W, Timken, 6752..	N	W	2, R	9½, 10⅝	E, E	P, Detroit	½, ½			50x3-60x4	L	Ross		I, Smith	190	36x6-40x6d	9,300	–, 85	550
551	I, Own	N	BS	2, R	10¼, 10¼	C, E	R	½, ½				L	Own	61, 0	S	174	36x6-40x6d	7,925	54, 70	551
551a	SB, Own	Y	BS	2, R	10½, 9	E, E	P, Own	½, ½	Detroit		51x3½-62x5	R	Ross		S	165	36x6-40x6d	9,200		551a
552	W, Sheldon, W50..	N	B	2, R		E, E	P	½, ½	Sheldon	12, 13	48x3½-62x5	L	Own		I, Smith	162	36x5-40x6d	9,100	25, 75	552
553	W, Timken, 6752..	Y	B	2, R	9, 10½	E, E	R, Own	½, ½	Perfection	11, 17	46x3-60x4	L	Ross		W	160	36x6-40x6d	7,500	60, 80	553
554	I, Clark, 5D	Y	B	2, R	11, 14	E, E	R, Own	½, ½	Mather	8, 12	46x3-56x4	R	Ross	68, 0	S, Clark	162	36x5-40x6d	8,600	45, 80	554
554a	W, Sheldon, W51	N		2, R		E, E	R, Own	½, ½	Sheldon	12, 18	46x3½-60x4	L	Ross		W	168	36x6-40x6d		55, 75	554a
555	W, Timken, 6752..	N	B	2, R	9, 10½	E, E	P, Parish	½, ½	Merrill	11, 15	42x2½-56x4	L	Ross		S, Dayton	186	36x5-40x6d	8,750	–, 70	555
556	C, Own			2, R			R	½, ½					Lavine		S, West	178	36x6-40x6d			556
557	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	12, 15	48½x3-56½x3¾	L	Gemmer	56, 0	W	150	36x6-40x7d	9,500	50, 90	557
558	W, Own	N	S	2, R	11⅞, 9½	C, E	R	½, ½		12, 14	42⅞x3-54x3½	L	Ross	62, 0	S	156	36x6-40x7d	8,925	58, 78	558
559	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x6-40x6d			559
560	W, Sheldon, W51..	N	B	2, R	9, 10	E, E	R	½, ½	Kalamazoo	10, 18	42x3½-52x4	L	Ross	34, 6	I, Smith	168	36x6-40x12	9,000	40, 60	560
561	I, Torbensen, C			2, R		E, C	R, Detroit	½, C	Detroit				Jacox		S		34x3½-34x7			561
561a	W, Sheldon, W51.	Y	B	2, R	11½, 10¾	C, E	P	½, ½	Sheldon	11, 16	46x3-60x4	L	Lavine	65, 0	I, Smith	172	36x6-40x12	9,725	55, 75	561a
563	C, Own	N	B	2, R	11½, 10¾	C, E	P	½, ½	Merril l	9, 17	46x3½-52x4	L	Own	52, 6	W	Opt.	36x6-40x12	8,672		563
563a	W, Savage	N		2, R		E, E	R, Own	½, ½	Tuthill		44x3-60x4	L	Ross		I, Smith	190	36x6-40x14	10,300		563a
564	B, Own	N		4, FR	11, 11	E, E	R	½, ½	Tuthill	14, 14	50x3½-50x3½	R	Own	36, 0	S, Own	144	36x6-36x6	12,500	50, 50	564
565	W, Sheldon, W51..	Y	B	2, R	10, 10	E, E	P	½, ½	Merrill	12, 17	44x3-58x4	L	Ross		I, Smith		36x6-40x12	8,960	42, 86	565
566	C, Sheldon, RA70.	N	B	2, R	9⅞, 17	C, E	R	½, ½	Sheldon	11, 13	51½x3½-59½x3½	R	Ross		W, St. Marys	124	36x6-40x7d	10,240	–, 85	566
567	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x7-40x7d			567
568	I, Clark, 5D	Y	B	2, R	11, 14	E, E	R, Own	½, ½	Mather	13, 16	46x3-56x4	R	Ross	68, 0	S, Clark	162	36x6-40x7d	9,500	45, 80	568
569	C, Own	N	B	2, R	11½, 10¾	C, E	P, Own	⅛c, ⅛c	Merrill	9, 17	46x3½-52x4	L	Own	52, 6	W, Own	Opt.		9,050	50, 72	569
570	C, Own	N	S	2, R	11½, —	E, C	P	⅛c, ⅛c	Mather	10, 14	48x4-60x4	L	Ross	47, 9	I, Smith	174	36x7-40x7d	11,000	66, 91	570

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Sells Trucks With Side-Line of Oils

Illinois Distributer Operates Fleet of 10 Machines Delivering Gasolene, etc., to Farmers

INTRODUCED as a side line, oil has now become the leading department in the business of Murray & Medbery, Bloomington, Illinois, pioneer distributers of automobiles and Oneida motor trucks. All but motor trucks, accessories and oil have been dropped, but the firm maintains a first-class garage. Oil is distributed by a fleet of ten Ford and Oneida machines, ranging from 1- to 2-ton capacity. Commencing in a small way to distribute oil, the Murray-Medbery company has gradually enlarged its motor truck fleet and plans still further enlargement and with an ever-widening territory. So far as known, this is the only firm handling motor vehicles in Illinois, which has taken on the side line of oil and gasolene for wholesale distribution. The success of the Murray-Medbery firm is a suggestion to motor truck or automobile dealers of other sections. In the operation of a fleet of delivery trucks, there is a big advantage in the availability of a garage and repair shop and thus keeping inspection and maintenance as important factors in reliable and economical operation.

Three of the machines are of 1-ton capacity and carry tanks of 300 gallons. Seven of the motor trucks are Oneidas of 2-ton capacity and carry tanks ranging from 550 to 720 gallons. The heavier machines are utilized for the longest trips, while the lighter ones are used in city and suburban deliveries.

Testing out solid and pneumatic tires at the outset, the firm has decided in favor of pneumatics and all solid tires will be discarded. Pneumatics are favored because they show greater economy in operation, increase the earning power of the motor trucks, permit greater speed, give greater tractive power, can operate on bad roads where solid tires could not move, have less vibration, ride easier and reduce the wear and tear upon the machinery.

Each motor truck is equipped with a weather cab which enables the driver to be thoroughly protected from rain and cold weather. The Murray-Medbery fleet operates twelve months out of the year, even over the miserable roads of Central Illinois. Regularity of operation and ability to fill orders promptly and regardless of road and weather conditions, are important factors in building up an oil business and overcoming competition. The Murray-Medbery company accomplishes this by employing first class drivers, most of whom are motor mechanics and capable of making ordinary adjustments and repairs to the machines they drive. They are carefully coached and instructed by J. B. Kelly, the plant superintendent, who personally looks after the inspection and overhauling of each machine. Every evening, in addition to other attention, the springs of each motor truck are thoroughly oiled. This has a tendency to increase flexibility and eliminate breakage. One of the principal sources of trouble in the past was due to broken springs. Since the application of oil, this trouble has become negligible.

All drivers are paid a fixed weekly salary, regardless of the number of trips or gallons of oil handled. In addition, they are allowed a commission upon all orders they secure. This plan has worked out successfully and has enabled some of the drivers to increase their weekly remuneration all the way from one-third to one-half of their salary. The drivers are salesmen for the firm and the commission is an incentive to get over the route in the shortest possible time and thus enable them to secure new business and increase the circle of patrons.

The oil department of the Murray-Medbery firm is operated under the name of the Corn Belt Oil Company. So rapidly has the business grown that branches have been opened at McLean, ten miles south of Bloomington and at Minier ten miles west of Bloomington. Other branches are contemplated in towns to the east, and north of Bloomington.

The farmer who does not own an automobile, tractor and motor truck, is becoming the exception in Central Illinois. With three or more motor vehicles upon the farm, the man who tills the soil becomes a heavy consumer of gasolene, kerosene and lubricants. To take care of the oil needs of the progressive farmer is the object of the Murray-Medbery Company. This business is unique in many respects and appears to be a winner.

The plant where the motor trucks are housed and serviced, where the motor truck sales room and accessory department are located, is at 411 West Washington street, Bloomington. There is a frontage of 120 feet and a depth of 150. There are two stories, making the establishment one of the largest of the kind in Central Illinois. There has been a remarkable netamorphosis since the firm first took on the agency of the Overland car twelve years ago. Already one of the leading distributors of oil in Central Illinois, the ramifications of the firm will be vastly increased with the coming of the trunk line system of hard roads, promised soon in Central Illinois as a result of the $60,000,000 bond issue.

Universal Joint, Designed by Cardan, Dates Back to 1520

Perhaps the oldest design used in the modern motor truck is that of the universal joint, which in principle is identical with the first universal developed by Cardan about 1520 A. D. For many years we called a propeller shaft and joints a Cardan shaft and even to-day all Europe refers to it as this type of shaft. While the original Cardan shaft, invented by Jerome Cardan, employed the exact principles of the present day standard type, the latter is to be sure quite different in detail structure and modified for automotive use. Were it not for Cardan, however, our engineers would be unable to design a shaft drive car. Like the original Cardan joint, the Spicer, for instance, is all metal and composed essentially of a metal cross or spider. To each pair of ends of this cross a yoke is attached so that one yoke can move sideways and in the opposite direction from th other yoke, since each oscillates on its own spider ends. Of course this is covered by means of a housing to keep out dirt. Wiggle your thumb and you get universal joint action.

Such joints are used in all modern automobiles and motor trucks in order to allow the propellor shaft to revolve and at the same time move up and down and sideways, relative to the rear axle. The axle bounces up and down according to road conditions, but the propeller shaft must connect this bouncing part with another unit attached to the frame of the car. Usually this is the transmission and since this does not move up and down as the rear axle does, the propeller shaft must have these universal joints. One can see that without the joints the shaft would bend and then could not transmit power.

Fleet of 1- and 2-ton motor trucks owned and operated in the oil

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The Neck of the Bottle

By E. A. McCARTHY

Traffic Manager, Tractor Bearings Division, Hyatt Roller Bearing Company

DURING last winter I saw office men of mediocre physique spend night after night in various railroad switching yards out in the snow and rain to make sure that their shipments were moved. I have seen these same men roll up their sleeves alongside freight handlers and help transfer stuff from one car to another. I have seen farm tractors do switching work day after day—switching that technically was the duty of the railroads. I have known manufacturers to send men across several states to get a trunk or a suitcase full of parts to be used for completing machines—machines that were often sold at a loss. One Michigan manufacturer, within the next few weeks, will begin operating a fleet of trucks between his factory and his sources of supply—in some instances a distance of over 700 miles!

In our own organization every man who has visited our factory during the past six months has been instructed to bring back as many bearings as he could carry as baggage. During the express handlers' strike over half of our office force went down into the railroad yards and spent day after day—sometimes far into the night, unloading express cars containing our product in order to expedite deliveries to our customers.

IT is hard for the public to realize just how many difficulties have beset the manufacturer in making deliveries during the past two years. Never before have so many different obstacles had to be overcome.

Although on every hand we hear cries of greater production, I believe that a thorough analysis would convince anyone that it is more a question of transportation, for even with disturbed labor conditions the majority of delays in manufacturing can be traced directly or indirectly to delays in transporting material.

During the past three years transportation has been the "neck of the bottle." No one has been free from the effects. The manufacturer has been delayed in getting his material. He is dependent upon the steel mills and the parts makers, and they in turn are dependent upon the mines, and then again the mines are dependent on other manufacturers for mining equipment with which to operate.

The farmer is dependent on many phases of the manufacturing industry to supply his needs and absolutely everyone is directly dependent upon the farmer.

Thus we get an endless circle of dependencies and analyzing the situation from its various angles the wonder is that things are moving along as smoothly as they are.

Since 1915 the volume of freight handled in this country has increased 45 per centum. During the same period the increase in number of freight cars amounts to only 2 per centum.

THIS deficiency in freight car equipment is seen reflected in express service; when a shipper realizes the congested freight condition he routes more and more of his goods by express.

As a result of this condition express shipments have increased more rapidly than ever before. Few express cars have been built during the past three years. To-day it is quite the practice to ship commodities by express that under normal conditions would have always gone by freight. This has been a substantial factor in increasing prices.

The railroads are the arteries through which the very life blood of the nation flows. These arteries are hardened, they no longer expand, the blood pressure is high. Goods can not be freely transported from one section of the country to another, and as a result of this our whole industrial system is out of joint.

The only way to compensate for the deficiency is to speed the flow of products through the available channels. It is up to the traffic men—both with the railroads and with private corporations, to accomplish this. It is their duty to judiciously apportion material and transportation equipment—to protect both buyer and seller, to use every piece of equipment to the greatest possible advantage, to safeguard the public interests—always observing the basic economic rule, "the greatest good to the greatest number."

It is a 'man-size job." It is an unending job. Conditions are serious—if we give up to them they will immediately become disastrous!

More work, more thought and less talk are needed. High-brow legislation will not change the economic condition. The problem is practical rather than political. We have no time to spend in proving who is to blame. It's a question of making the best of things by putting forth constructive effort and real "sweat."

Traffic men can not remedy the situation single handed. Others must do their share. The dealer in farm machinery should have a clearer understanding of the problems that confront the manufacturer and the farmer should appreciate the dealer's efforts to supply his needs. The public as a whole should maintain a liberal-minded attitude toward the railroads.

Transportation is the neck of the bottle. Immediate individual profit is quite incidental. The big problem is to keep the wheels of industry turning. It is up to everyone to face the situation and consider things fairly. The problem affects everyone directly or indirectly. It's up to everyone to do his part toward alleviating the condition.

EQUIPMENT should not be delayed. The fact that a man is willing or able to pay a high demurrage charge does not entitle him to hold up a freight car.

Such a man is not only subjecting some other shipper to a hardship, but he is placing himself in a position where the railroads will not be inclined to give him preferred service the next time he needs a car. To needlessly detain equipment is a crime against the economic welfare of the nation. The man who is guilty of it is an enemy of society.

Cars should be loaded to a maximum capacity, which, generally speaking, is 10 per centum above the rated capacity. In other words, a car marked 60,000 pounds should be loaded to 66,000 pounds.

Consignees should promptly take up L. C. L. shipments in order to avoid freight-

Business by Murray & Mudbery, Oneida dealers, Bloomington, Illinois.

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house congestions. Buyers of all kinds should anticipate their requirements as far ahead as possible. Idle talk will accomplish nothing. Intelligent coöperation and hard work will save the day.

Trucks Operate Successfully in Imperial Valley Heat and Dirt

That motor trucks are called upon to work under the most adverse conditions, but are meeting those conditions in a manner characteristic of an engineering achievement, is shown by fifteen Kissel motor trucks operating in the Imperial Valley, California.

The Imperial Valley is 119 feet below sea level with roads built of silt deposits from the Colorado River. It is situated about half way between Los Angeles and San Diego, and has a total population of 60,000 people who last year produced $66,000,000 worth of products. The water is all brought in by canals from the Colorado River. On account of the soil being silt, the roads are very bad and extremely dusty.

It is the opinion of people living in California that there is no place in the United States where a motor truck is put through such unusual tests as in this valley.

During the summer months the temperature very seldom goes under 100 degrees a day or night and during the daytime the thermometer reaches from 130 to 135 degrees in the sun.

For many months this fleet of fifteen motor trucks has been operating continually without interruption in the Imperial Valley hauling cantaloupes, watermelons, etc., from the fields to the packing pits and to the refrigerator cars under the most adverse conditions, not only in temperature, but in contending with traction difficulties due to the soft fields and sandy silt, hub deep, piling up in front of the wheels.

An instance that shows climatic extremes with which these machines must contend is that of a 2½-ton power wagon loaded with watermelons weighing 8,500 pounds starting from the valley 119 feet below sea level, making 70 miles of mountain grades after dark, reaching an altitude of 1,420 feet and then down to sea level again at San Diego.

Luedinghaus Starts Line With Power Wagon of 2-Ton Capacity

Th Luedinghaus-Espenschied Wagon Company, of St. Louis, which recently entered into the manufacture of motor trucks is reported to be meeting with splendid success in its new enterprise. This company has been in existence for over 77 years, having been organized in 1843, and during this time it has manufactured Luedinghaus farm wagons, logging trucks, and army escort wagons.

Up to the present time efforts have been directed toward the production and sale of a 2-ton motor truck which is known as the Luedinghaus Model K. This size, though, was only intended as a forerunner to a complete line of machines of different sizes; and within the next month the production of a 1½ and a 1-ton motor truck will be announced. The Luedinghaus company hopes in the near future to be able to offer to the public as complete a line as can be found anywhere on the market.

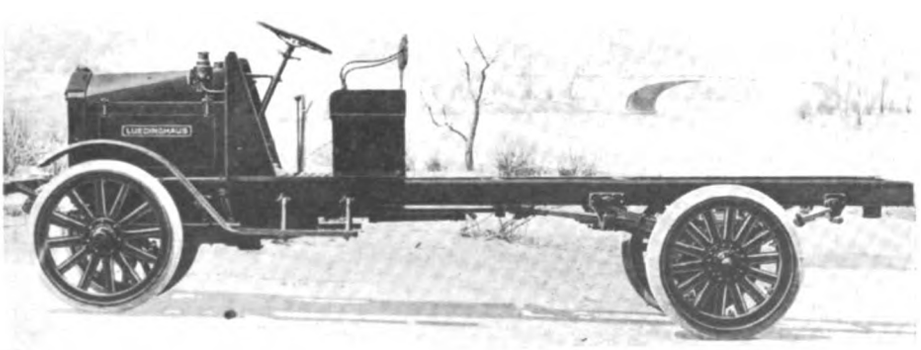
The Luedinghaus Model K 2-ton motor truck is a machine of quality, having embodied in its construction only such units as have in the past demonstrated and proved their value. The engine is a Waukesha, Model RU 4R, having a bore and stroke of 4¼ by 5¾ respectively. It is capable of developing full horsepower at 1,100 r.p.m. One of the distinctive features is a patented governor which is built in the motor itself.

A 12-inch, single plate, dry disk, Borg and Beck clutch is employed which is built in as a unit with the motor. The transmission is Detroit and is of the selective type, having three speeds forward and one reverse.

The gear ratios are: High, 1-1; second, 1.87-1; low, 4-1; and reverse, 2.88-1. The final drive is through a Wisconsin worm-drive axle with a ratio of 8.66-1. This rear axle is of the semi-floating type with a Brown-Lipe differential. The drive shaft is 2½ inches in diameter and is made of vanadium alloy steel. An attractive feature about this axle is the attachment of a double braking system. Contrary to the plan used in the construction of most rear axles, two separate brake bands are used, which construction is popular in hilly areas.

Power is transmitted from the engine to the rear axle by a two-piece propeller shaft provided with three universal joints. Alignment of the shaft is maintained by a ball-bearing support in the center. This support is claimed to eliminate any tendency toward shaft whipping. Carburetion is by a 1¼-inch Schebler of the government type and control of the air valve for starting is mounted on the dash convenient to the driver. Ignition is provided by a Splitdorf high tension magneto. Starting is made easy on the magneto by the use of an impulse starter which is automatically released when the engine speed reaches 100 r.p.m The spark is controlled by a lever on the steering gear.

Cooling is effected by means of a large centrifugal pump. The radiator is of the honeycomb type, the core being of the copper tubular variety, supported vertically. The engine is lubricated by a forced feed and splash system and the chassis is lubricated by oil cups. The frame is made of ¼-inch pressed steel, 6 1/16 inches wide with 3-inch flanges. It is reinforced by four cross members and substantially supported by gusset plates. Tuthill, semi-elliptic, heat-treated, alloy steel springs are used—the front measuring 2½ by 42 inches and the rear 3 by 54 inches. These springs are guaranteed against breakage. The front axle is unusually heavy, drop-forged, and equipped with Timken roller bearings. The steering gear which is mounted on the left side is an adjustable worm and nut type with a 20-inch steering wheel. Artillery type wood wheels are used. Tire equipment is optional. The equipment includes two side lamps, tail lamp. horn, bumper, speedometer, seat, cushion, and tools.



2-ton chassis of Luedinghaus quality truck.

Standard Wins Gold Medal

In a series of competitive tests sponsored by the Automobile Club of Barcelona, Spain, a Standard stock chassis, taken from the floor of the Barcelona dealer, was awarded a gold medal in its class. The trials were conducted between Barcelona and Madrid, and exhaustive tests under conditions rarely encountered by the average truck in commercial usage were made from a standpoint of economy, power, durability and haulage ability. All vehicles were tried with various fuels over the same measure course.

The thoroughness with which these tests were carried out is evidenced by the fact that a period of six days were consumed in making them. Twenty-eight motor trucks, the leading makes of England, France, Spain, Switzerland, Italy, Germany and America, were entered in the competition.

City to Haul Own Coal.

The city of Decatur, Illinois, has just purchased a 4-ton Indiana motor truck, which will be utilized for hauling coal from the local coal mines to the city pumping station. It has been computed that 25 to 40 cents will be saved upon every ton of coal hauled and that the machine will be paid for in eighteen months at this rate of saving.

St. Louis Limits Weight

St. Louis through its Board of Aldermen has placed a weight limit on motor trucks. Under the new law machines are not allowed to carry more than 28,000 pounds over the city streets. No vehicle will be allowed to carry over 22,400 pounds on one axle nor the weight on any wheel to exceed 800 pounds per inch of tire width.

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Would You Go Back to This?

Boston Work Horse Association Issues List of 13 Rules to Govern Care of Horses That Makes Labor in Service Stations Seem Like a Parlor Job

MANY different explanations have been given as to why girls leave home, but there is only one explanation as to why boys leave horses in favor of motor trucks, if said boys are required to care for horses according to the "instructions for the treatment of horses in hot weather," as issued by the Boston Work Horse Association, and that one answer is plain.

The instructions referred to are set forth in thirteen rules, as shown below in italics. The text not in italics constitutes some additional suggestions and comments of the author's, designed to elucidate certain points and to improve upon certain phases of the treatment. It is by no means meant to infer that the instructions are superflous or unnecessary—on the contrary they are admirable and humane, and should be followed by all drivers—the comments are intended principally to contrast the work of caring for a team of horses with that of caring for a truck doing several times as much work.

Rule 1 reads:

Load lightly, and drive slowly.

THIS contrasts strongly with the general practice of motor truck drivers and owners to load to the limit and drive like ———, regardless of the temperature. The automobilist who has ever driven behind a horse-drawn vehicle doubtless wonders how drivers could possibly make horses go any slower than their normal crawl. But even this snail's pace is hard on the poor beasts on the burning pavements in hot weather—the humane thing would be to have them replaced with the unfeeling motor truck.

2. Stop in the shade if possible.

If working where there is no shade available a parasol should be provided, or a neat little canopy on a light frame would be even better.

3. A sponge on top of the head, or even a cloth, is good if kept wet. If dry it is worse than nothing.

A folded handkerchief will do nicely—a hand-embroidered monogram add class. A small water tank mounted on top of the wagon, with a pipe running to the cloth, will insure having the cloth kept wet. Or water may be carried in a thermos bottle, thus keeping it cool, and a medicine dropper used to moisten the cloth. Ordinary water will do, but cooled violet water is preferable.

4. Water your horse as often as possible. So long as a horse is working, water in small quantities will not hurt him. But let him drink only a few swallows if he is going to stand still.

"As often as possible" is putting it a little strong—every hundred yards is sufficient. However, there is a chance here for some Willie Westinghouse Edison Smith to invent a device which will keep a small supply of water constantly available for the horse while he is at work, and cut it off when he stops. Perhaps an atomizer could be attached to his collar in such a way as to spray his mouth all the time he is pulling, but stopping when the pull ceases.

5. When he comes in after work, sponge off the harness marks and sweat, his eyes, his nose and mouth, and the dock. Wash his feet but not his legs.

Be careful, however, not to get soap in his eyes or mouth—remember how you hated your mother to treat you that way when you were a kid, and horses don't like it any better Delicacy forbids making some almost obvious comments regarding the traits of character of a young man who prefers to scrape carbon off a spark plug to acting as masseur for a horse's dock, so we must pass that up. However, it is suggested that for washing the horse's feet a white enameled foot-tub is much to be preferred to the old-fashioned stable bucket. Incidentally, the horse should not be allowed to stand with wet feet—they should be carefully dried—real linen towels are not necessary, though, cotton will do practically as well, but should not be starched in laundering.

6. If the thermometer is 75 degrees or higher, wipe him all over with a damp sponge, using vinegar water if possible. Do not wash the horse at night.

SOME horses, in common with a well-known actress, prefer champagne to vinegar baths. Any good sour wine will answer the same purpose as vinegar or champagne, as the necessary acids are present. If the thermometer is above 85 degrees it may be well to give this bath two or three times a day, the first one about 3:45 A. M., so the horse will be in good condition to eat his breakfast and start his day's work.

7. Saturday night, give a bran mash, lukewarm; and add a tablespoon of saltpetre.

A little freshly prepared lobster salad and some Roquefort cheese will make it more appetizing and digestible. If the horse's coat does not seem as glossy as it should, add some whites of eggs, thoroughly beaten, and a little whipped cream.

8. Watch your horse. If he stops sweating suddenly, or if he breathes short and quick, or if his ears droop, or if he stands with his legs braced sideways, he is in danger of a heat or sun stroke and needs attention at once.

If his ears are laid tight back and his teeth show plainly, it is well for whoever is within a few feet of his head to remove themselves, as they are in danger of suddenly losing flesh. If the ears are back and one hind foot is suddenly drawn forward and then shot back, it is highly advisable to be at least six and one-half feet distant before the reverse movement is completed. In such cases the horse is not in such immediate danger as the driver. Most horses need watching for the reasons mentioned, as well as for several others.

9. If the horse is overcome by heat, get him into the shade, remove harness and bridle, wash out his mouth, sponge him all over, shower his legs, and give him two ounces of aromatic spirits of ammonia, or two ounces of sweet spirits of nitre, in a pint of water; or give him warm coffee. Cool his head at once, using cold water, or, if necessary, chopped ice, wrapped in a cloth.

IN getting him into the shade he should be carried in the same position as one would carry a sleeping infant, with the head on a level with the body, and supported in the palm of the hand—it should not be held high nor allowed to droop. His back should be gently supported by one arm held under it longitudinally in order to prevent straining the spinal column by supporting it in only one spot.

If the aromatic spirits of ammonia, sweet spirits of nitre or warm coffee are not available, or do not produce the desired results, try some pink tea or a raspberry frappe. If there are no bystanders a pint of your private stock of old rye or moonshine can be used—it never is advisable to resort to this method, however, when there is a crowd of thirsty onlookers present.

It is always advisable to have chopped ice at hand in hot weather. The ice may be carried already chopped if a thermos bottle is available. Otherwise five or ten-cent pieces of ice may be carried in a box or bucket and chopped as needed.

10. If the horse is off his feed, try him with two quarts of oats mixed with bran, and a little water; and add a little salt or sugar. Or give him oatmeal gruel or barley water to drink.

A Welsh rarebit is also very tempting to most horses, and may bring them around. A good grade of bon-bons, glacè nuts, or some hot-house fruit may answer—they can at least be tried.

11. Clean your horse at night, so that he can rest well, and clean him thoroughly. The salt dandruff drying on his skin makes him uncomfortable, and often produces sores under the harness.

You know how you feel after you've taken a bath and can't find a towel, so that the water dries on your skin. It's the same with the horse, only a lot worse. You can yell for wife or mother to bring you a towel but the horse can't—he depends

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on you to keep him clean and well manicured—don't disappoint him.

12. Do not fail to water him at night after he has eaten his hay. If you don't he will be thirsty all night.

He's just as badly off as you are when you wake up in the night, terribly thirsty, in a strange house, and don't know where the water is. Or perhaps you'd understand it better if it was put this way—the horse who isn't watered at night after he's eaten his hay feels just like the man who has to spend several days in a town where prohibition is enforced on strangers and he doesn't know a soul in the place—you wouldn't have a horse feel that way surely—then don't forget to go to the stable every night about 10:30 or 11:00 P. M. and give your horse a drink.

13. If it is so hot that the horse sweats in the stable at night, tie him outside, with bedding under him. Unless he cools off during the night, he cannot well stand the next day's heat.

This rule can not be followed blindly, however. If the mosquitos outside are enough thicker than the flies in the stable to make the bites come too frequently, nothing may be gained by tying him outside, since the additional exercise in fighting the mosquitos and rubbing the bites may offset the lower temperature.

Ice bags and electric fans are excellent for cooling a horse at night. The fan should be of the oscillating type, however, so as not to blow continuously in one spot, as this may cause stiffness.

After living up to the above thirteen rules, as originally printed, for about one week, we predict that the most backward, dyed-in-the-wool and out-of-date horseman would seriously consider letting someone else have his job, and would apply for a job as driver of a modern transportation vehicle which did not require nursing, coddling and constant attention, night and day.

Lorain Motor-Truck Company in Market With New 2-Ton Model

The Lorain Motor Truck Company, Lorain, Ohio, is entering the motor truck field with a new type of motor truck. The designing features throughout the whole chassis and body mounting trend toward light weight, strength and efficiency. It has been the object of the designing engineer, E. C. Juergens, to offer a 2-ton motor truck which has a guaranteed 50 per cent over-load, of extreme light weight, strength and efficiency. This one model which is being manufactured now is the Model D-2-ton, specially designed for dump body work.

The main feature is maximum torque per pound chassis weight which is 1.10 pounds pull per one pound chassis weight.

Another of its features is the pay load mounting which is carried directly over the springs but not on the steel unit frame. In this design the unit frame becomes a sub-frame and merely holds the parts in alignment. Considerable weight is saved by this design with increased strength, as a 4 inch rolled channel frame replaces the ordinary 7 inch and 8 inch frame with a much larger factor of safety, the strain and twisting movements on the unit frame are entirely relieved as the load is carried right over the center line of the springs, on the two 2½ inch by 9 inch wood sills which offer a more resilient and firmer mounting to the merchandise then the ordinary steel chassis frame does.

Still another feature of this J & J model is the short wheel base and long loading space which is 80 inches from the back of the cab to the center line of the rear axle. The third feature of importance is the engine mounting and power plant which is on all wood foundation and the power plant does not touch the steel frame at any point. The mounting is of the three point suspension type and the front support is mounted on one large impregnated oilless wood bearing of the ball shape type. The two rear mountings are each on a large impregnated oilless wood bearing of the ball shape type which allows the motor to merely float in the chassis. No strain is taken by the crank case when going over rough roads as is the case of the ordinary mounting where the motor bell housing is bolted firmly to the chassis.

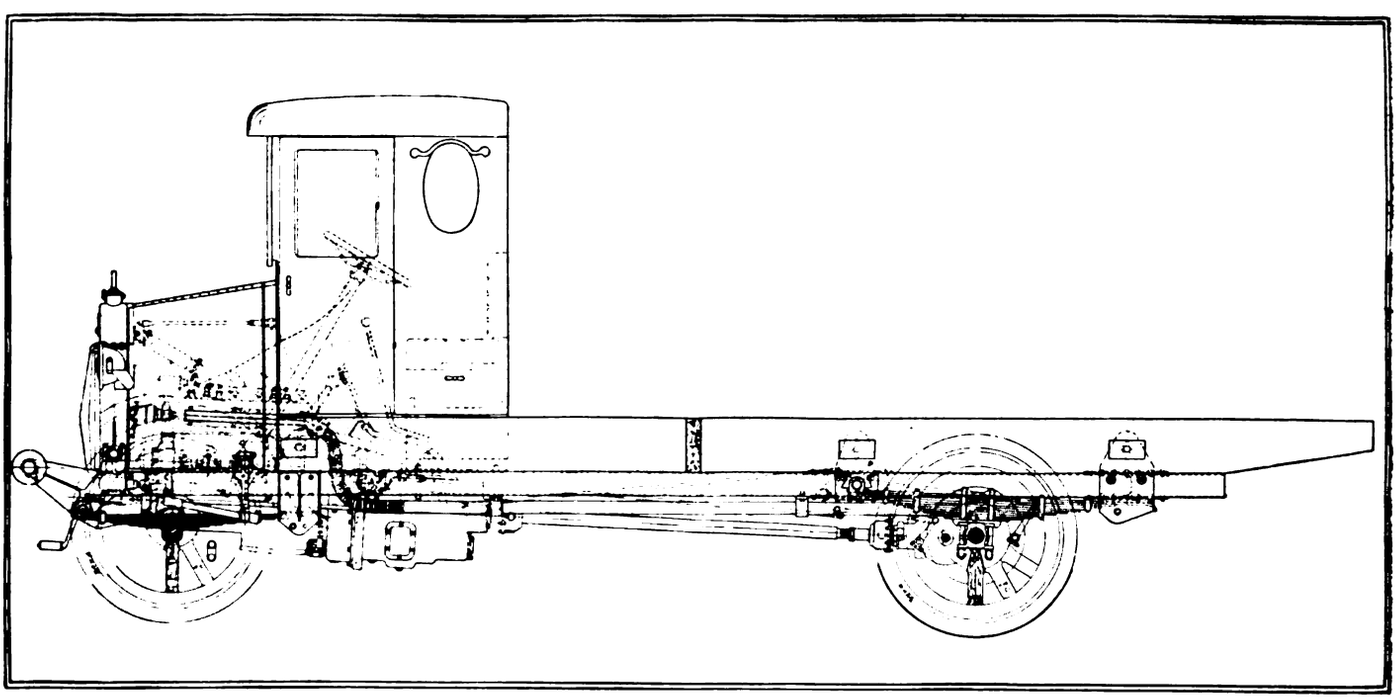
The fourth feature of note is the springs which eliminate the shackles, bolts, bushing, grease cups, cotter pins, also radius rods, torque tubes, cross members, brackets and their extra complicated parts. The springs are designed to take the drive torque, and the riding qualities are increased by the automatic shortening and lengthening of the springs which gives excellent riding qualities. The spring is at its full length under light loads and gets shorter and stronger as the load is increased.

Great accessability is claimed. By removing six nuts and a few connections, the power plant is free to be lifted out. By removing eight nuts, the radiator can be lifted out and replaced in a few minutes' time. By removing four nuts and bolts and brake rods, the rear axle can be slid out from under the car and the front axle is just as accessible; in fact there is not a unit on the car that can not be removed and replaced in thirty minutes' time excepting the frame.

The principal units are of standard design. The radiator is of the fin and tube type and is guaranteed not to burst from freezing.

The transmission is of the four speed forward type, has the gears always in mesh and can not be stripped from changing speeds.

The engine is Wisconsin Model E. A. U. The driving axle is Russell.



Line drawing of J. & J. 2-ton truck made by Lorain Motor Truck Company, Lorain, Ohio.

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Caterpillar Artillery

(*Continued from page 28*)

A caterpillar vehicle to operate satisfactorily over very rough going, where it is necessary to climb steep banks, cross ditches, etc., should have no projection outside a plane tangent to the front and rear end of the tracks and sloping at an angle of 60 degrees to the horizontal. It would be very desirable, from the standpoint, especially for military vehicles, to have the tracks extended a considerable distance ahead and behind the chassis; on the other hand, this would increase the weight of the vehicle without proportionate advantage and would probably adversely affect steering conditions to such an extent as to make it undesirable.

WEIGHT is an important factor, especially in regard to vehicles of the lesser capacities, as it is desirable that they negotiate fixed and pontoon military bridges, and especially the light highway bridges common in this country. The following notes, indicating the different kinds and capacities of military bridges used by our army, are of interest:

(1) Fixed military heavy bridge, both steel and wood. Maximum width between curbs 132 inches. Height of curb 8 inches. Weight of Mark, VIII tank 40 tons.

(2) Present or intermediate type pontoon bridge, using standard equipment. Load, 5-ton axle loads with 10-foot minimum separation.

(3) Proposed new type of pontoon bridge of about twice the capacity of (2).

One of the great difficulties experienced in the operation of cross-country mechanical transport is in passing through water. This is of such importance that it has been specified that artillery vehicles shall be able to negotiate 5 feet of water. This problem offers two solutions; that of partially submerging the vehicle and that of floating it. In this connection, it is worthy of note that water was the most effective protection against tanks that was used in the recent war.

One of the most important problems in connection with caterpillar equipment for artillery motorization is undoubtedly that of the proper location of the center of gravity. These vehicles have the ability to negotiate such rough terrain that a tentative military specification to-day requires that a tractor shall be capable of negotiating a 100 per centum grade without load and shall pull a trailer load equal to its own weight up a 60 per centum grade, if footing can be obtained.

The ideal condition is to have a uniform load on all truck rollers at all times regardless of grade. The law of gravity, of course, makes this impossible.

In the case of a heavy drawbar pull on the tractor the tendency is for the front rollers to lift off the ground and the rear sprocket to come down toward the ground. The stabilizing moment is now increased, and the tractor rocks about a point on the ground beneath the rear sprocket instead of about a point beneath the center of the rear roller.

In considering the application of the caterpillar tractor for military purposes, there should continually be kept in mind the fundamental rules affecting quantity production, successful construction and effective design. These may be expressed as follows:

(1) The proportions of the mechanism must be suitable to its use, as nearly correct theoretically as is possible, and must function as intended.

(2) The design must be such as to simplify the problem of production in every possible respect.

(3) The materials used in its construction must not only be satisfactory for their purposes, but such as may easily be obtained in large quantities and uniform quality in times of stress and of such a nature as to be fabricated without undue effort or expense.

(4 While original research is recognized as essential and by all means to be encouraged, nothing but thoroughly proved and accepted practice should be considered for production.

(5) Interchangeability should be carried to the limit, particularly for military purposes, without, however, jeopardizing the success of the vehicle by imposing impossible requirements. Where possible, there should be interchangeability of units and parts between different kinds of vehicle, and as many similar parts as possible in a vehicle should be made interchangeable, thus reducing the number of different pieces.

It must be appreciated that the statement that tractors for industrial purposes are not good enough for military purposes is erroneous. The real facts of the case are that any tractor not good enough for military purposes is not good enough for industrial or agricultural purposes.

I BELIEVE that the close contact of the automotive manufacturer with the motorization problem in general has given him much valuable knowledge and experience and that in many cases it has undoubtedly improved his product. On the other hand, it is to be hoped that military motorized equipment of all kinds can be developed so that commercial vehicles can, in their turn, be modified to be applicable to the military requirements. This is for two reasons. First, and of greater importance, it is beyond the ability of mankind, in the present state of the art, to develop a new piece of equipment as intricate as the motor car, truck or tractor, build it in quantity and put it into actual service, without going through a difficult and expensive period of learning the problem of production and overcoming unavoidable defects. It is only by putting military motor vehicles into actual production over a period of time that they can be made practically free from weaknesses or, to state it differently, it is only by the use of a commercial product, modified, if you wish, that our Army equipment can be made thoroughly satisfactory from the operation and maintenance standpoints. Second, it has been well proved, during our 18 months of participation in the recent war, that even with the resources of the entire country behind it no factory can be rearranged, tooled up for the production of a newly-designed vehicle and a satisfactory product obtained short of a period of time running into months, and then at an almost unheard-of expense. The use by the Army of vehicles already in production, would therefore make an immediate source of supply available at a much less emergency cost and would not disrupt the industry nearly to the breaking point. This principle is thoroughly appreciated by the Ordnance Department but, as the same time, the problems incident to using commercial vehicles for war purposes have seemed almost unsolvable.

The Ordnance Department, during the period of our participation in the war, used engines of many makes. It has plans for the future which, when put into effect, will ultimately replace the present engine equipment with a series of powerplants, which it is estimated should be about as follows:

(1) A 60-hp. engine for use in 2½- and 5-ton tractors, self-propelled gun mounts and cargo carriers of corresponding capacities. The reason for the relatively less horsepower in the 5-ton tractor as compared with the 2½-ton unit, is that it is assumed to be a slower speed vehicle.

(2) A 120-hp. engine for use in 10- and 15-ton tractors and any self-propelled gun mounts or cargo-carrying vehicles of like capacity, the loaded weight of which does not exceed 50,000 pounds.

(3) Engines of 350- to 400-hp. for use in the heaviest types of tanks.

These capacities are, of course, only estimates, but they give some idea of the tendencies in future military engine requirements.

Can the military engineers modify their requirements and plans to meet a possibly modified method of procedure of the manufacturers, or can some scheme be developed whereby these two groups can get together in producing and using a commercial line of vehicles and units? Is it possible to take the design of an engine already in existence, or is it better to design a new one and to attempt to interest manufacturers to take it up and gradually put it into use in order that the type, size and design of engines may be consistent?

In any event, existing equipment must be modified to meet desired operating conditions, future possibilities and peace-time requirements better. This existing equipment must be studied over a period of time; it must be revamped and in some cases entirely redesigned in order that it may be produced more efficiently and fit in with the producing conditions of the automotive industry.

CONGRESS must provide the authority and the means whereby this most necessary work can go on. Large sums of money and great engineering effort are expended annually by many of our large manufacturing concerns in the improvement and the development of a single product. Obviously, it is necessary for the government to go to greater extremes in carrying out this important motorization movement, because in this there will be no direct competition to act as a stimulus and others will not undertake or continue the work if the government does not.

Let us apply to the solution of this big problem the same enthusiastic energy that was applied to the winning of the war, so that our country, through the cooperation of its automotive experts with its ordnance engineers, shall continue to lead in the art of cross-country mechanical transport.

Columbia Axle Expands

The Columbia Axle Company of Cleveland, after having reached a monthly production said to be in the neighborhood of $1,000,000, has acquired by purchase the adjoining lands and buildings of the Properties Company and will devote the new space to the manufacture of axles both front and rear. The company has been in business since 1914.

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A Remedy for Transportation Ills

By O. W. STILES
The Lakewood Engineering Company, Cleveland, Ohio

THERE has been a great demand on the part of the railroads during the past few months for more freight cars, they insistently contending that with more cars the rail congestion would come to an end. Anyone who has given the problem any thought realizes that the congestion is not due to lack of cars but to inadequate terminal facilities. There have been ample cars at all times to move the country's tonnage, but the outlaw strike created a car congestion on all lines. Terminals were especially affected, and soon were in a state of chaos, but the rail executives have been strangely silent on the subject of terminals, and the entire situation has been laid to lack of cars. This is due largely to the training of rail officials. All their thought has been directed to transportation problems and the terminal problem has received no special thought or study.

Moving freight from terminal to terminal is strictly a transportation problem, while the terminal is the economic and business end of the system. The transportation problem has been magnificently solved, but in the handling of freight at terminals and terminal improvements, they are fifty years behind the march of American progress. Here lie the real troubles and wastes which are due to excessive handling costs, yet little, if anything, has been done in the way of systematic effort to solve this problem. It is high time for the rail official to realize his service does not end with the movement of the freight car. The conditions are such that this is no longer the railroad's, but the nation's problem.

DANIEL WILLARD, chairman of the Advisory Committee of the Association of Railway Executives, is authority for the statement that when the government of the United States took possession and assumed control of the railroads on January 1, 1918, the carriers so taken over owned at that time approximately 2,260,000 freight cars, of which number 5.7 per centum, or 128,780, were reported as in bad order, and unfit for service. During the twenty-six months of federal control, the government purchased roundly 100,000 freight cars, and 2,000 locomotives, which was somewhat less than the number of freight cars and locomotives which the same railways had been in the habit of buying during each twelve months previous to federal control. At the termination of federal control on March 1, 1920, the same railroads reported ownership of 2,362,000 cars or about 103,000 more than at the beginning of federal control. They also reported 6.7 per cent, equal to 153,727, as in bad order, or 25,000 more bad order cars at the end than at the beginning of federal control.

Investigation made since the termination of federal control has shown that there are a large number of cars running to-day, reported in good order, that is, safe to run, while in fact they are really unfit to perform the service for which they were designed. This is particularly true of box car equipment. It will in all probability be six months or a year before it will be possible to get existing equipment in as good condition as it was at the beginning of federal control.

At the beginning of federal control the records showed that each of the railroads in the United States had on the average about 44 per centum of its own cars on its own line, while at the end of federal control the reports show each railroad had only about 22 per centum of its own cars on its own line. According to estimates made by the railroad men, 2,000 locomotives and 100,000 freight cars are needed to bring conditions up to normal. However, we should remember that any additions made to the freight equipment involves large additional investments and expensive up-keep of same, and a large amount of equipment idle over the larger portion of the year, and a substantial increase in all the freight elements of the railroads.

DUE to seasonal demands on equipment, the peak of the load occurs about the fore part of October, and the question arises as to whether this should be taken care of by additional cars, or other reservoirs for storage, such as grain elevators, cotton platforms, etc. We do not believe that it is to the interests of the country to have equipment for which there is use only over a period of perhaps six weeks in the fall, standing idle during the remainder of the year.

Much has been said recently relative to increasing the number of miles per car per day, as well as increasing the tonnage per car per mile. With this thought in mind, let us proceed to analyze the figures submitted by the railroads themselves as to equipment performance during the past few years. The average loading in 1916 was approximately 23.6 tons per car. In the fall of 1917 an effort was made to secure an increase in the loading of cars, and this effort was continued through 1919, in which year the maximum was attained, the average being 29.1 tons per car. The average capacity of cars in 1919 was 41 tons. Thus, the average loading attained was 70.97 per centum of the marked capacity of the car. This was secured under the spur of patriotic impulse, and through common need. Reports of the first few months of 1920 indicate a reduction in the loading per car, due no doubt to the administration being no longer in a position to insist upon shippers loading to capacity. During the year 1916 freight cars on all railroads in the United States, as a whole, made an average of 26.9 miles per day. During the year 1918 the average mile per day was 24.6, and in 1919 it was 23.1, a decrease of 3.8 in three years.

The number of tons handled one mile in the years 1917, 1918 and 1919 was in excess of 394,000,000,000, or more than 100,000,000,000 in excess of any of the years 1906 to 1917, inclusive. When it is considered that the years 1917 to 1919 covered the World War period, when production was speeded up to the maximum, these years may reasonably be used as a criterion as to maximum production, and the maximum that may be expected, for the next two or three years to come. However, conceding that even these tonnages will be materially exceeded, if the maximum mileage and maximum loading are applied to the present equipment, it can handle a tonnage almost 18 per cent in excess of the tonnages of 1917, 1918 and 1919. The maximum mileage and loading here represented is 29.1 tons per car and 26.9 miles per car per day.

However, Mr. Willard states an average loading of 30 tons per car, and an average movement of 30 miles per car per day is attainable; also that for each ton added per car, there is made available approximately 100,000 additional cars, and for each mile increase per car per day is made available another 100,000 cars. Therefore, if we can increase our loading on an average of one ton per car, and can again attain the average movement of 26.9 miles per car attained in 1916, we will have added to our equipment approximately 480,000 cars.

THE same gentleman states that it is possible to keep the number of bad order cars below 4 per centum. If this figure is attained, it adds another 75,000 cars, and we have added to our equipment some 555,000 cars. If Mr. Willard's schedule of thirty tons and thirty miles per day can be reached, and the bad order cars reduced to 4 per cent, we will have at our disposal 875,000 additional cars, and only 100,000 cars are needed to restore normal conditions. Truly the answer is not in the purchase of additional equipment, but in increased operating efficiency, and modern terminal facilities. The entire tonnage transported annually by the railroads of the country must go through the terminals. Ninety-five per centum of this tonnage is carload, and 5 per centum l. c. l. freight. The centers of manufacture and distribution lie in the larger cities of the country. A large proportion of the freight enters them as carload freight and leaves as l. c. l., which added to the pasenger traffic, greatly increases the perplexity of terminal problems.

According to reports of the railroads themselves of the total cost of operation, one-third is terminal and two-thirds line

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haul. Calculations made indicate the average freight car is actually moving between one terminal and another only 11 per centum of the time. It is usually in the hands of the shipper or receiver about 37 per centum of the time. About 9 per centum of the time it is being laid up for repairs, etc., and 43 per centum of the time it is in the process of being moved from the place where it is loaded or unloaded to the terminal where it is put in the trains or on transfer-tracks. The big problem confronting us is how to reduce the 37 per centum and 43 per centum and add it to the 11 per centum of the time the car is actually moving between one terminal and another. Railroad executives have very kindly informed us in detail how the 37 per centum may be reduced. Some of the methods recommended by them are as follows:

Heavier loading of cars by raising of minimum weights for car load shipments.

A reduction in the detention of cars by means of adequate and flexible demurrage penalties.

Limiting the number of reconsignments of freight in transit.

A restriction in the use of "to order" bills of lading.

Elimination of the bill of lading as a commercial instrument.

But they have been strangely silent as to how a reduction in the time car is in process of being moved in and around and through terminals, as represented by the 43 per centum, may be accomplished, and we are prone to believe, for the reasons given in the forepart of this article, as long as the terminals are in the hands of the railroads this strange silence will continue.

At the present time each and every city in the United States feels that it has a prior claim on the financial resources of the railroads serving it, for special terminal facilities. It is, of course, impossible to give each city the best, and since the terminal end of railroading is the business end, and because the industrial life of each community depends upon its own terminal facilities, it appears to follow that the financial interests of each community should on a valuation basis take over the railroad property inside of the outer classification yards, organize their own terminal, finance their terminal for what it demands, and operate their terminal for the mutual benefit of those dependent upon its success, basing their charge on the individual service rendered to each and assessing each for improvements or betterments which will result in operating economies through which each will benefit.

The locally owned terminals will make joint cars for their delivery to the outer yards of the competing railroad which gives them the best transportation dispatch to a similarly owned joint terminal at other points. Thus would shippers, individually and collectively, pay for what they get, and enjoy the results of the coöperation they give their own terminal instead of, as now, harnessing on the public at large, through increased tariffs, the perquisites they enjoy through long established, non-profitable switching tariffs which should have been abolished years ago. By this means, production can run the business end of railroads, and at each point settle between themselves their own priorities, etc., and railroads can run the transportation end of railroads, in which they are capable of discharging their obligations, as the shippers should be capable of settling their own intraterminal disputes.

If, in the new field of transportation which will develop, through our present effort to "unscramble the eggs," the above mutualizing of terminals at each and every point in this country can be made effective, each community, through its coöperative experience, will capitalize or forfeit its own industrial possibilities without the alibi of inadequate transportation, and the competing carriers will have to give to each community the transportation necessary because their only means of competition will be the expediting of freight movements, instead of, as at present, the blockading of competition.

This will eliminate "the festering terminal sores, such as taking care of $35 per car in the line haul rate, making the innocent consumer of much of our land pay that the City of New York may continue to grow and monopolize the export and import business of the country."

The property of the railroads within outer classification yards can be taken over on a valuation basis, extended as desired, facilities constructed as its own demands recommend, and its own patrons charged for service on the basis of cost, making up and delivering under its own intraterminal charges, consolidated cars to the classification yard of the railroad giving the quickest transportation service. Under joint agreement to be made at the time these terminal properties are taken over from the carriers, it will be established on what basis carriers would enjoy the use of terminal rails for the exclusive movement through that terminal of its through line business. Local terminals would not then be assessed by political interests the exorbitant charges for right of way, etc., as are now demanded of railroads whenever they express a desire to meet the extension demands of any community.

The above thoughts are based on the proved business principle that complicated subjects demand individual treatment. No railroad system can give unbiased thought to each and every terminal, whereas, the shippers within that terminal, with their own terminal facilities, as their own individual problem, will early solve the complexities and internal disputes which are now too big a problem for the railroads on account of their inability to legally arbitrate such matters to the satisfaction of all interests.

Under present conditions little can be accomplished by the railroads themselves. Their credit at the present time is seriously impaired, and this credit must be rehabilitated. Any activities undertaken by the railroads themselves at the present time must be largely confined to improvements in minor facilities, operating methods and practices, and studies and plans for the future.

Therefore, this problem requires the united coöperation and best thought of the industrial as well as the railroad world. What can be immediately done is get the cars back to the home lines, repair more cars, increase the miles per car per day, increase the loading of cars, quickly repair and modernize more locomotives, and install efficient methods of handling freight throughout terminals by the use of modern mechanical methods for handling freight and material.

Motor Trucks Pull New Orleans Out of Serious Freight Muddle

Motor trucks have come to the rescue of the freight congestion problem in New Orleans. Hundreds of machines have been mobolized and are taking care of the piled-up freight both in the railway warehouses and along the water front.

The plan to clear up the freight situation was developed by H. N. Siegel and Walter Betz, of the Frank Weinberger Automotive Parts Company. This plan includes organizing into separate fleets 150 motor trucks with drivers and helpers. These men are to receive regular compensation from the merchants whose freight they move, the Weinberg company to act as a clearing house through which the haulers and merchants may be brought together and to receive the money from the merchants and pay it to the motor truck owners. The first two fleets of 150 motor trucks have already been organized. All the commercial organizations of the city together with railway and boat line officials are behind the plan, which has shown splendid results.

Wet Rubber Cuts Easily

Wet rubber cuts much more easily than dry rubber and this suggests the need of extra careful driving of the motor truck during the spring months when the roads are in bad condition. Sharp stones, car tracks or stray bits of glass or metal will cause cuts in wet rubber, yet they might not damage the same tire if it were dry. A careful driver will avoid car tracks at all times, but will be particularly careful in wet weather as a sharp frog may gash a tire very badly, especially if the rails are wet.

Light Railways Not Popular

The Transport Act of 1919 granted the Minister of Transport of England the power to advance money for the building of light railways. The plan, to the present time, has not met with much favor, since out of a total of $5,000,000 appropriated by the government nor more than $1,000,000 has been demanded.

The commissioners in charge of this fund claim the conditions under which these governmental loans are allowed has much to do with their unpopularity, but it is the opinion of well informed motor truck interests that the public refuses to place money in light railways for the simple reason that the motor truck has proved itself to be the logical vehicle for all short hauls in England.

A Correction

In the Blue Print Section of the 1920 POWER WAGON REFERENCE BOOK, the rating of the Advance-Rumley oil fuel tractor is given as 3-plow. The rating should be 4-plow.

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Shall the Farmer Dicker for Trucks

By OTTO F. LOHSAND,
Freight Transportation Department, Packard Motor Car Company, Chicago

THE greatest prosperity and highest type of civilization has always been found in nations employing the best forms of transportation. History brings this out very clearly and passing consideration will show it is an inevitable truth. Obviously the closer a nation is bound together the better the understanding and coöperation that prevails.

Consider the development of railways. Without them the country would have been little further advanced than it was 100 years ago. Yet the railroads went through their pioneer, missionary stage. People were skeptical as to their practicability. They faced adverse legislation such as a few short-sighted legislatures are trying to handicap the motor truck with to-day.

Railway men, like the late James J. Hill, were far sighted and realized the development which surely followed the building of railroads into such sections of the country as the great Northwest. It is this same breadth of vision that leads transportation men of to-day to see the development which the motor truck will bring. Well-constructed highways are the first requisite. Motor trucks operating on real roadways will multiply the rural population, bring the farm closer to market, deliver to the consumer 50 per cent of perishable produce now wasted for want of haulage facilities. This means stimulating farm production to the highest degree by insuring a market for everything produced. The inevitable result will be increasing the wealth of the entire country, because more will be taken from the ground—the source of all wealth.

STATISTICS of the United States Department of Agriculture indicate the farmer who hauls to market by motor truck pays one-half what team hauling would cost. This, of course, takes into consideration efficient operation of the motor truck, that is, provision for full loads, enough tonnage to keep the motor truck busy all the time and a reliable unit.

There are many methods of insuring a machine capacity business — coöperative service, where the motor trucks work for a farmers' association—is one of these.

The main point is that the power wagons operate on an efficient business basis. When this is done, transportation authorities agree that on short hauls of less than carload shipments, the motor truck is the most economical and direct medium. Picture it—more valuable and flexible than a branch line railroad reaching every farm throughout the country.

This leads to the belief that the farmers will be the largest operators of motor trucks. The number they operate may reach three million.

The effect of this convenient transportation is readily apparent. The reduction it is bound to effect in food prices shows how it affects everyone. That is, it will reduce prices if the farmers' motor trucks are operated efficiently, whereas inefficiency will mean a loss of profit to the farmer but at the same time a higher price for the consumer to pay for his food.

So the development of the farmer's transportation is of vital importance to everyone, even the railroads. These will probably be the largest beneficiaries for they will be connected up with the possible 3,000,000 feeder lines maintained at no expense to themselves. That they appreciate this is shown by the recent action of the Milwaukee Electric Railway & Light Company.

This company realized in the fall of 1919 that its express service was inadequate to care for its territory. The problem was solved by establishing rural motor express lines to take up the work where the interurban terminated. Sixteen pneumatic tired motor trucks and special trailers were installed and soon proved their worth.

THESE motor trucks and trailers are but the nucleus of a great fleet which will eventually connect the country district with the interurban companies' terminals. The lines are operated on regular schedules, the motor trucks making two trips a day. They deliver and pick up any and all kinds of freight no matter how small or large. These lines are a big aid in the solicitation of express business for one of the biggest inducements in getting consignments is that shipments to any place in the system received up to six p. m. are delivered by noon of the following day.

The company has terminals in Milwaukee and East Troy from which city motor truck deliveries are made. From the Watertown terminal three lines are operated and from the Burlington rail head two. In 1919 the express business of the company showed an increase of 62 per centum. The hauling by motor trucks of 2,000,000 pounds of freight in December indicates how motor trucks aided in the growth. While rail express outbound exceeds the inbound by 50 per centum it has been found that tonnage on the motor truck lines except in one or two instances is more nearly balanced. This is a decided advantage as it insures pay loads on all trips.

From the time the first machines were installed the popularity of the motor truck feeder lines was never in doubt. More business than they could possibly handle was quickly offered to them. They offer a real and dependable service, besides being a constant source of interest. They give a fine demonstration daily of what power wagon stamina and endurance accomplish.

The service was uninterrupted even through the severest days of the winter and has thoroughly justified itself. The bodies of motor trucks and trailers are of water-proof construction built in the companies' shops. The company asserts that in this work, pneumatic tires are superior to solids for cross country hauls while solids are the proper equipment for city hauls.

To get back to the farmer and his motor trucks. First consider our pioneer locomotives. They had virtually no resemblance to the present day haulers. It is also interesting to note that while succeeding developments of locomotives have reduced the cost of transporting a ton of freight a mile; yet the cost of making the locomotive has steadily advanced. It will undoubtedly continue to do so as long as locomotive development continues to reduce the ton-mile cost of transporting material.

One can not imagine a railroad shopping for locomotives on any other basis than that of securing the most efficient units.

Can the farmer afford to take a bigger chance?

With the smaller capital he has to invest, shall he shop for a motor truck or shall he be absolutely sure he is buying certain definite miles of freight transportation at the lowest proved cost of hauling a ton of freight a mile?

Will the farmer get a bargain in any truck at any price or the efficient hauler at the price which must always be paid for reliable, sound worth? Is the final answer in the first cost or final cost?

OBVIOUSLY it is final cost. Everyone realizes that, but still there is that unborn instinct to drive the best possible bargain. A cut price means one of two things, either the article was priced too high in the beginning—not worth what was asked for it —or the price will be made up some other place. Someone must pay. This basic principle is just as true in the motor truck industry as it is in any other.

Farmers and other business men have found that the only motor trucks worth considering are ones of proved merit. They see no reason why they should pay for experimenting to prove the ability of a machine, claiming that this is properly the manufacturer's part. A farmer wouldn't buy a binder because it was painted prettily and introduced by a clever salesman. No! The farmer would want to know who built it. What it had done and was capable of doing. The main thing in all this is, of course, the concern back of the product. At that a reputable concern with the best intentions in the world may be misguided.

For example: When a well known firm first started manufacturing tractors, it sought to make one size machine fit the requirements of all size farms. Needless

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Central Illinois Dealers Think Well of Outlook

NOT DISCOURAGED BY FINANCIAL STRAIN

BLOOMINGTON, ILL., Aug. 25.—Tightening money markets and increasing difficulty to persuade bankers to finance various deals for motor vehicles, is being considered by the Bloomington Automobile and Tractor Association during the summer meetings and steps are being taken to counteract the injurious effects of this attitude among the money lenders. Operating expenses are being pared wherever possible, the overhead cut to the minimum, and the cost of operation reduced proportionately to the income. Increasing efforts to make sales, more speed in every department and the maximum of pep injected into every angle of the business, are the alternatives to overcome the handicap of financial stringency.

The dealers here believe that the banks are overdoing it in their conservatism in declining to honor gilt edge paper, in numerous instances. It is believed that the present position can not last and that the expansion of wages and back pay for the employes of the railroads, increasing their income by $600,000,000, will so increase the circulation of money that the banks must get rid of some of it and will be more inclined to lend than they are at present. There is no disposition here to lessen advertising activities.

The Bloomington dealers put on their fall tractor demonstration on Saturday, August 21, as usual, and 13 firms with 25 machines participated. Some of the dealers were pessimistic concerning the necessity or wisdom of such an exhibition in view of business conditions, but the majority favored the event and it proved to be a great success.

The crop outlook in Central Illinois is extremely favorable. Wheat and oat yields were greater than expected and prices have been satisfactory. The corn crop is also pleasing to all farmers and the yield gives promise of equalling that of last year. Timely rains have visited most sections and this means a golden stream into the pockets of the men who till the soil. The men who sell motor vehicles see no reason to be gloomy even if the bankers are inclined to place a strangle hold upon their purse strings. Central Illinois dealers propose to go after fall business with a vim that will produce results. They refuse to let any discouraging factor affect them.

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to say the makers were unsuccessful, in fact, they almost met disaster before they discovered their mistake and began to build the tractor to fit the farm.

It is the same with motor trucks. Any old motor truck will not do. Just because it has an engine under the hood that will make a noise is no recommendation.

Reputable motor truck manufacturers have transportation engineers. It is their duty to analyze the needs of motor truck users and prescribe the proper transportation. In the case of the farmers they go out and after a thorough survey of the farm, proximity to market and other features tell him his transportation requirements. This is because a sixty-acre farm, of course, would not require the same installation as one of six hundred. A farm producing wheat would not require the same equipment as one given over to fruit or cotton. Incidentally the farmer is not obligated in any way to buy motor trucks from the company the engineers represent. In fact, he is not obliged to buy trucks at all.

Transportation engineers have found instances where a farmers' needs would be better served by two or three joining together—pooling their hauling. There are other instances where these men have recommended delaying the purchase of a motor truck until certain changes were made.

Regarding the latter.—In several instances the whole layout of the farm has been changed, that is, roads arranged so they would permit a machine to function at its maximum efficiency. The proximity of the farm to market is another big consideration of the engineers in making an analysis of a farmer's requirements.

To use the railroad again. A railroad train going over a mountain is equipped with two or even three locomotives. Until it reached the uplands, one did the work. The engines are still delivering the same power to the drawbar but conditions have altered. Apply this to a motor truck. Honest motor trucks will haul their rated load under any and all circumstances, but why should an owner buy more motor trucks than he needs. That is, a man in the city hauling 3 tons on pavement does not need the same equipment as the farmer hauling the same 3 tons through mud. Besides doing away with the purchase of too much motor truck the new system prevents wasteful depreciation for the man whose conditions are unusually bad by supplying him with sufficient reserve for all his needs.

In determining the proper unit for his work, a farmer can be immeasurably assisted by transportation experts, but there are several points upon which he must satisfy himself, through his own investigation. He should not be guided solely by first cost, as has been indicated. But, in considering operating and maintenance cost, there are many facts to be weighed. One of the biggest of these is service. The word "service" is undoubtedly the most abused in the business world. It can mean much or little depending entirely upon the concern rendering it.

The farmer should be positive of the permanency of the concern of which he purchases his transportaion. He should also know that they will either be making the model unit he is purchasing or parts for it during the life of the unit. Another big point is that they will have located near him service stations with adequate stocks of repair parts so his motor truck will not be laid up awaiting repairs while he suffers a loss because he is deprived of its use. This factor is of greater importance to a farmer than to a large fleet owner who, if necessity demanded, could maintain his own stocks in his service station.

The whole idea may be summed up by saying that the farmer will profit by insisting the manufacturer do all the experimenting, he investing his money only in freight transportation units which have demonstrated their efficiency and economy.

Motor Truck Industry Is Facing Reactionary Laws

NEW LEGISLATION IN FORTY STATES

A forerunner of what may be expected in the way of reactionary laws affecting the motor truck industry and against which the industry must be prepared to fight during the next two years when legislatures will meet in regular sessions in almost forty states, is emphasized in a letter being sent out by the St. Louis Automobile Manufacturers' and Dealers' Association. This letter calls attention to a proposed law to be introduced at the next session of the General Assembly of Arkansas requiring "vendors of motor vehicles to establish branch houses or stations for the supply and distribution of parts." A copy of the proposed law follows:

"*Section* 1—That it shall hereafter be unlawful for any person, firm or corporation to sell, or offer for sale, any automobile, tractor or motor vehicle of any kind, character, or description, in this state unless and until such person, firm, or corporation, shall have established in this state one or more branch houses or stations at which parts for any such automobile, tractor or motor vehicle are kept in ample supply and quantity to supply the demand for any or all such parts by patrons within this state.

"*Section* 2—Before any person, firm or corporation shall be permitted to sell or offer for sale, either directly or indirectly, any car, automobile, tractor or motor vehicle, it shall file an affidavit with the Secretary of State, to the effect that it has established one or more branches or stations in this state at which any and all parts which may become necessary for the renewal or repair of such car, automobile, tractor or motor vehicle, or any part thereof, may be had, and shall also designate the place or firm carrying such parts, and in addition thereto shall file a bond in the sum of $10,000, to be approved by the Secretary of State to the effect that it will pay and discharge any and all damages arising out of delays or otherwise, which may result from the failure of any such person, firm or corporation to fully comply with the provisions of this act.

"*Section* 3—This act being for the immediate preservation of the public health, peace and safety, an emergency is hereby declared, and this act shall be in full force and effect from and after its final passage and approval."

According to a report issued by the Board of Trade, 2,867 motor cars, both passenger and commercial, were imported into England from Germany during the period November 11, 1918, to May 31, 1920. The value of these vehicles is returned at $3,373,970.

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Operation of Motor 'Buses

By G. A. GREEN

General Manager and Engineer, Fifth Avenue Coach Company, New York City

IN the design, manufacture and operation of the motor 'bus, one must come into contact with practically every field of industry. The motor-bus industry is of very recent growth. It is, however, rapidly establishing itself in popular favor. Unquestionably, the so-called "jitney" is merely a forerunner. It is, however, fulfilling a useful purpose since it is creating a desire for real 'bus service. Trackless transportation has unquestionably come to stay and it is confidently anticipated that in the very near future the automotive industry will give this branch of its family something more than a name.

The three main divisions of the Fifth Avenue Coach Company are the engineering, mechanical and transportation departments.

A rather general impression prevails that the average motor truck chassis can be successfully employed for motor-bus operation. We do not hold this view. There certainly are many instances where modified truck and touring-car chassis have been profitably employed for 'buses, but in such cases had the right type of vehicle been used more economical, satisfactory, safe, comfortable and convenient operation would have obtained. Furthermore, where financial failures have occurred, many of these could undoubtedly have been avoided, assuming, of course, the employment of the right kind of vehicle. In my opinion, the average truck chassis is unsuitable for passenger transport because the weight is excessive, particularly the unsprung weight, the center of gravity is too high, the gear ratios are unsuitable, the springs are too rigid, the frames, spring and axle tracks too narrow, the turning radius too wide, the steering too stiff, etc. I believe that an efficient 'bus corresponds very closely to an enlarged touring car. Briefly, it would be just as unsatisfactory to attempt to use a high-class twelve-cylinder touring car for general trucking purposes as it is to expect the average motor truck to give efficient and economical service when used to haul human freight.

THE development of a new type of vehicle is an exceedingly slow process. Apart from the matter of design, an immense amount of time is necessary to prove out the value of the product. Approximately 25,000 miles of operation is required to find out what is wrong after samples have been placed in operation. One hears of engineers who claim to have completed a design of chassis and put it into production straight from the paper. Our experience has not been so fortunate, although on our engineering staff we have some exceptionally high-grade men. We also avail ourselves of the opinions and advice of many of the best-known engineers holding prominent positions with the larger manufacturers.

We have since 1907 operated nineteen different types of chassis produced by domestic and foreign manufacturers, also twelve different types of bodies, and we have tested nearly all suitable standard engines from four to eight cylinders, also many different types of radiators, clutches, transmissions, axles and chassis frames. In none of these instances did we meet with entire success. No doubt those who have control of the operation of heavy vehicle equipment will appreciate the many difficulties with which we were constantly confronted. Of course, our lack of standardization proved a severe handicap.

ON looking back one can not escape the conclusion that the design and production of our own equipment was the logical procedure to follow, particularly when one considers the extremely valuable data at our command as a result of experimental and development work plus the known results obtained from the operation of many different types. We certainly were in a unique position because we were able to select the best points from the numerous different types of vehicles operated by ourselves. Furthermore, it was not necessary to take precedent into account, nor to cater to other people's views. Then, again, we had no selling problems. The net result of our effort was the production of complete 'buses that have to date covered more than 20,000,000 miles. The performance of these vehicles has more than justified our fondest hopes and their operation is so markedly superior to our previous models that no comparison is possible. The enormous saving in gasolene and mechanical maintenance has been sufficient to meet the ever-rising costs of labor and material. It is reasonably safe to assume that had we not taken this step the company could never have reached its present position.

It is difficult to say what the future type of 'bus will be. Clearly, different cities have different requirements. In all probability, any large operating company will require at least two distinct types, the double-deck for large loads and the single-deck for smaller loads, faster operation, express service, etc.

Assuming good roads, wide thoroughfares, and reasonable freedom from overhead structures, the fifty to sixty-passenger, very low hung, double-deck vehicle capable of handling a trailer seems to have great possibilities. This class of vehicle jointly operated with the single-deck, one-man controlled, pneumatic-tired 'bus appears to me as being a logical scheme, especially where peak loads must be handled largely without surface car or subway aid. The development of either type presents immense, but not insurmountable, difficulties. We have been working to this end for several years and our sympathies are with those who may be undertaking a similar service.

There is just one other point. There are those who believe that the trolley car propelled by a gasolene power unit may supersede the present arrangement. In my judgment this theory will not bear close analysis, for the great asset the trolley car has is cheap power. Take this away and the structure falls to pieces. A gasolene-propelled trolley car is a 'bus, less nearly all the advantages of the latter. It is, of course, true that a much lighter and better design of trolley car could be produced and a gasolene power unit embodied in it. It is equally true that the cost of operation of such a vehicle might be less than that of existing types of trolley cars, but my contention is that if the same care and attention to design were applied to the conventional article, still better results would be achieved. The fact is the present trolley car design is more or less crude and out-of-date. They are as a whole built as strong as possible, not as weak as possible, which is a much more logical and economical procedure. To sum up, trolley car design has not marched with the times.

Our research department co-ordinates the work of the design, repair and operating departments. Briefly, the duties and responsibilities of the research department are as follows:

(1) Analysis and recording of all breakages, failures, etc.
(2) Operation of the dynamometer.
(3) Continual study of the fuel situation.
(4) Testing of materials such as fuels, oils, etc.
(5) Perusal of all trade journals.
(6) Standardization program.

AS regards the analysis and recording of all breakages, failures, etc., we attach great importance to this matter. The data are tabulated in such a manner that accurate comparisons can be made. Standardized classification sheets are furnished departmental heads weekly. Operating and repair departments are required to forward all broken parts to the research department, where full and complete records are maintained.

Among other apparatus the research department has a 150-hp. Sprague dynamometer. This is employed for the testing out of all engines, either new or repaired. Of course, it is also employed on work of other kinds.

A large amount of research work is done in connection with the continual study of the fuel situation. Various kinds of mechanical and chemical gas-saving devices and compounds are constantly under test, as well as thermostatic controls for air and water, carbureter improvements, etc. Our dynamometer equipment permits us to determine the value of these devices speedily. Where merit is shown, further tests are continued on the road under actual service conditions.

The testing of materials such as fuels, oils, etc., requires scarcely any comment.

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Obviously, it is necessary to assure ourselves from time to time that the materials delivered are in accordance with the specifications; for example, that the oils possess the required physical properties, that the gasolene is free from impurities, acidity, etc., that the range of boiling points is reasonably satisfactory, that our rubber tires possess the required resiliency, etc.

The research department is the medium through which we keep posted in regard to all developments in the industry. All trade journals are carefully scanned with this in view. Frequently small tools, methods of doing work and improvements of one kind or another are found in this manner that might otherwise be missed.

Where improvements are tested and show definite merit, it is the duty of the research department to make recommendations in regard to the embodying of these improvements in our equipment. This is done during the annual overhaul process. This department is also required to find remedies for defects which prevent our vehicles from operating their allotted mileage between general overhauls. Such improvements are also usually embodied during the annual overhaul process, although occasionally we standardize and apply certain minor features at other times.

OUR system of records is very complete. Comprehensive data are kept showing the results obtained from the use of practically every device of any consequence that we have ever built or tested. We make use of photographs wherever it is possible to do so; for example, we photograph our jigs, tools, patterns and our parts grouped under the various sections for use of both stores and mechanics. We obtain invaluable information from the data gathered in connection with service failures.

The superintendent of equipment has charge of all constructional work including repairs and renewals. He is responsible for the selection, training and discipline of all personnel concerned therewith.

In describing the transportation department, reference is made to the manner in which we deal with the human side of our business. Much stress is laid on the methods used in connection with the selection and training of our employes. The appointment bureau, association, sunshine work, restaurants, recreation rooms, etc., are also briefly described. Of course, all departments share these privileges and the same general principles obtain in connection with the handling of personnel throughout every department. We are convinced that our success is in no small measure due to the adoption of these principles.

Practically all departments are dealt with under what we term "Personnel Establishments." These provide a definite number of men and hours for each class of work. Each week a detailed comparison is made up from the actual payrolls and copies are furnished departmental heads concerned. The establishments are very carefully prepared in the first place and from time to time they are revised. The point is that after having allotted a certain number of men and hours for each of the various sections we do not permit of variations either way, since additional hours must denote wasted effort; on the other hand, a decrease might be equally costly in the long run, for assuming our estimates are correct, any decreases must mean the omission of work which ought to be done and which being left undone must eventually result in deferred maintenance, which we know from experience is a very expensive matter. After establishments are approved, any shortages in personnel may be made up without special authority. We find this is particularly helpful, since under these circumstances there is at no time any question as to whether a man who has just been taken on is really wanted.

Briefly, the repair department is responsible for the carrying out of our annual overhaul program, the supply of properly repaired units to the operating departments, and in addition it undertakes major repairs to bodies and chassis due to accidents, etc. Fortunately, however, these are infrequent.

We believe in centralized unit repairs. This work is carried out in a department entirely separated from the operation end. To permit this, each operating department is allotted a definite percentage of spare units which from time to time are exchanged. Insofar as possible, the exchange is made on a mileage basis and we insist that the units be delivered and returned complete in all respects. Operating departments are neither expected nor permitted to make major repairs to units. The centralization of our unit repairs permits of the use of unskilled labor, and to this end special tools and labor-saving devices have been developed to an unusual degree. Also men are concentrated on each of the various sections and each section has allotted to it complete tool equipment covering its requirements. Engines in particular receive careful attention. Bearings are reamed, not scraped. After overhaul the engines are run in by belt, then lightly under their own power. Finally, they are transferred to a dynamometer where they are adjusted to prearranged standards.

EVERY twelve months each vehicle is automatically withdrawn from service. It is then stripped down completely and rebuilt. At this time improvements suggested by the research department after having been approved are embodied. The complete 'bus is rebuilt and repainted, then returned to the respective operating department, to all intents and purposes a new machine and in many respects a better one than the original design. This procedure, of course, has no small bearing on the matter of depreciation, for under these conditions depreciation is really governed by obsolescence. Our idea is that equipment must always be kept up as near to 100 per centum efficeincy as possible, and as a matter of fact a vehicle, although it may have seen several years' service, is actually, at the expiration of this time, in a better mechanical condition than when it was first built. However, owing to the newness of the industry, the obsolescence factor can not by any means be lost sight of.

Annual overhauls are carried out on a definite schedule. Two per centum of our total equipment is allotted for this purpose, eight working days per vehicle. A small percentage of spare units, such as engines, transmissions, axles, bodies, etc., are employed. In the process of the annual overhaul, no special effort is made to replace the same units.

The function of each operating department is to maintain between annual overhauls the equipment allotted to it. Each department is controlled by a foreman who reports directly to the superintendent of equipment. The foremen are responsible for the cleanliness and general efficiency of the equipment allocated to them. This equipment consists of sufficient 'buses to meet schedule requirements, plus a certain number of additional vehicles to cover general overhauls. No spares are provided. The operating department foremen are responsible for both day and night forces. They are assisted by sub-foremen and charge hands. The wages, hours of work and duties of all operating department employes are clearly shown under their personnel establishment. As previously stated, operating departments are not required to carry out major repairs. This work is dealt with by the repair department, which also furnishes the operating departments with overhauled units.

A GENERAL overhaul represents a thorough inspection of every part of the body and chassis of every vehicle after each 2000 miles of service. General overhauls, or as they might be termed "general inspections," are the most important function of operating departments. We attach great importance to our theory of general overhauls. We feel it essential to have a vehicle that can be operated for a reasonably extended mileage with what practically amounts to no mechanical defect. We then take this vehicle out of service in accordance with a pre-arranged program and it is gone over in the most thorough manner imaginable. This system permits of concentrated and organized effort with the minimum lost motion. Very little repair work is done at night.

Approximately 6 per centum of our equipment is required for general overhaul. General overhauls must be completed by 4:30 p. m., each day, at which time they are scheduled for service. This means that up to 4:30 p. m. on week days we operate 92 per centum of our equipment and after that time 98 per centum. Saturday afternoons and Sundays we aim to operate 98 per centum. There are very few cases where this is not done, assuming, of course, that the requirements call for this service.

(To be continued.)

More oranges, lemons, peaches, bananas, melons, etc., are being handled by motor trucks, not alone because of the time saved, but of the saving affected in protecting the fruit from bruising. The difficulty in securing an adequate amount of farm labor will undoubtedly tend to increase the demand for motor trucks, for a man on a motor truck can, in many instances, replace three men and a team.

In round numbers the farmers of the United States produced foodstuffs—feed, wool and the like—to a total value of $25,000,000,000 a year.

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As Truck Makers View Market

In Reply to Letters Sent to Manufacturers Asking Their Opinion of Industry's Condition the Following Replies Were Received. Others Will Follow in October Number of Power Wagon

Sees Revival This Month

To the Editor.—We can see indications of a revival to begin in September. It will start up slowly, of course, but by November should, in our opinion, be quite active again. We have a large addition to our plant under way and are continuing the work regardless of the lull in production. We believe that the automobile manufacturers and truck builders failed to recognize the true situation quite as quickly as they should. The hold-up came unexpectedly from many sources. We canvassed the situation in advance and up to almost the last day many of our customers assured us that no reductions in their production schedules were likely to occur.

BROWN-LIPE-CHAPIN CO.,
H. W. Chapin, *Gen. Mgr.*
Syracuse, N. Y.

Contracts Are Not Held Sacred

To the Editor.—In May we were oversold 50 per cent. We have had cancellations which bring our actual orders slightly below our normal output of the last eight months. We are working normally and have deliveries specified at the past normal rate for the next two months.

Our opinion is that we are sailing in a lucky wind and we are expecting a calm. We are scrutinizing every delivery specification with doubt and expect 1921 business to be 60 per cent of 1920. Banks are restricting credit on tractors and trucks as well as cars. We have a case which we know where a farmer had a 900-acre farm, a $30,000.00 standing crop, no debts, no mortgages on the property, no loans and was a good credit risk, who was refused credit at his bank to the extent of $1,500 to buy a tractor to help harvest his crop, etc.

We are of the opinion that hardships are being imposed on manufacturers, dealers and the entire industry by credit restrictions. In some cases this is unjustifiable, but by and large the restriction in credit is based on lack of funds and the general necessity of a curtailment in inflation. Our opinion is that the banks have singled out the automotive industry as a whole as manufacturing products which can be done without under necessity, and are not exercising a broad distinction between the motor car trade and that for trucks and tractors. In the case of trucks and tractors bankers, no doubt, are treating the purchase of these as an increase in the capital account in the individual cases and are not favoring the increase of fixed to liquid assets. It is a question whether the economic value of trucks and tractors warrants their classification with silk shirts and phonographs. There is the same desire and need for trucks and tractors, among those who can use them, as ever. The basis of demand has not changed, but credit has changed. It is true that a certain percentage of all motor car, truck and tractor business is done on credit which is unjustifiable under present conditions.

We do not believe that there has been underproduction of manufactured or agricultural products in the last eighteen months. We base this on an important distinction as to whether it is proper to judge production on the basis of demand or of necessity. Production has been more than we have needed, but much less than what we wanted. The credit situation is the pivot on which the arrow of buying is shifting from demand to necessity.

We do not believe there is a concerted effort to show "labor its place." We do believe that labor as well as capital is learning its place rapidly under the present credit situation. We find certain sections of the country which have not felt the credit strain. We believe the way the credit situation is being handled warrants the assumption that legitimate industry and trade will be pressed but not crushed, and that business will be the better for the process. But by far the most serious readjustment needed is the return to that old substantial condition in which contractual obligations will be held with a sense of deep responsibility. The war has left no scar so deep on business as the loss of the sense of obligation and responsibility among men—capital and labor. The attitude of the government toward capital, labor and the average man must change, if we are to have any incentive for effort.

WAUKESHA MOTOR CO.,
H. L. Horning, *Gen. Mgr.*
Waukesha, Wis.

General Optimism Prevails

To the Editor.—While this company is not as large as some of the western wheel plants, we enjoy the distinction of numbering some of the largest and highest grade automobile and truck manufacturers as our customers. While we have not suffered severely from cancellations, with two or three exceptions (one, one of the largest of the truck dealers and, another, a manufacturer of a high grade passenger car), nearly every order on our books has been either held up, monthly schedule reduced or shipments deferred, some definitely and others indefinitely. This condition also applies to export business on our books.

June was the largest month in production and sales in the history of our business. In July there was an increase of 15 per cent in the production and 20 per cent increase in the sales over the previous July. This month it looks as if we will not be up to August, 1919, figures. The change in conditions has been most noticeable with us in the past few weeks. In business as of August 1st, 1920, there was a cancellation of 8.6 per cent, held up orders, 42.8 per cent, and orders on which there have been no deferments or hold up in any way, 47.6 per cent.

As to the cause of present conditions, no doubt the chief and primary cause is the action of the Federal Reserve Banks in restricting the loan of money for automobile purposes. It has been especially severe on dealers who have been accustomed to using the banks freely and who find under the new conditions that they are unable to take up automobiles with the ease to which they were formerly accustomed. Many manufacturers have also bought in larger quantities than their production schedules warrant, consequently having unbalanced inventories, and it seems to be the order of the day to "mark time" in taking in materials so that they may proceed with the minimum of expense. In talking with various large truck manufacturers this week, the writer finds generally an optimistic opinion, some reporting that the last few weeks' sales have increased considerably over last month, and all looking for better conditions after the presidential election in the fall.

SCHWARZ WHEEL CO.,
S. Vance Lovenstein, *Pres.*
Philadelphia, Pa.

Conditions Not Alarming

To the Editor.—The months of May, June and July were each of them better months from point of sales and shipments than any previous months in the history of our company, but present indications are that conditions will not be so favorable during the remainder of the year. We have received but very few cancellations, although we have received a considerable number of curtailments and holdups. The truck manufacturers offer various excuses for this, some of them claiming under-balanced stocks due to inability to secure other parts necessary for the building of their trucks. Others claim that the credit restrictions are making sales difficult, while others are pleading that the demand for their trucks still exists but that they are unable to make shipments.

Frankly we seem to find the smaller truck manufacturers less affected by these conditions than the larger ones, and practically all curtailments of shipping schedules have come from the larger truck manufacturers. Out of the 104 truck manufacturers who use Pierce governors as standard equipment we have received 17 curtailments of shipping schedules and 2 cancellations. This condition we do not believe is at all alarming and a number of the manufacturers, who have asked us to hold up shipments temporarily, indicate that they expect within 4 to 6 weeks to reinstate their regular shipping schedules.

THE PIERCE GOVERNOR CO.,
D. J. Voland, *Sales Mgr.*
Anderson, Ind.

Orders for Two Years' Production

To the Editor.—We do not question the advisability of the Federal Reserve Board's curtailing expenditures for luxuries by refusing to rediscount paper in those lines. We fully realize that it was necessary to conserve credit for foodstuffs and necessities. We do believe, however, that discrimination against the truck is wrong, as the truck is a necessity in this country for handling freight on short hauls, and, if it were not for the truck, our transportation situation would be in much worse shape than it is to-day. Also large amounts of perishable goods would be spoiled daily, if it were not for the prompt delivery by truck, whereas railroad shipment would not take care of same.

Our customers advise that the Federal Reserve Board has ruled against the banks lending money to assist motor truck sales, and as a consequence their dealers can not turn over their trucks and in turn reimburse them. There is no question but what there is a great demand and need for trucks in this country, in fact some of our customers advise they have actual orders for trucks on hand to run them all the way from one to three years.

ROSS GEAR AND TOOL CO.,
D. L. Ross, *Pres.*
Lafayette, Ind.

Sees Early Return to Normal

To the Editor.—There is no doubt whatever that within the last month or two there has been a slow-up in the automotive industries due, the writer believes, very largely, so far as the truck end is concerned, to the refusal of the banks to take the paper of truck purchasers and dealers as they have heretofore done. It is evident that any line of business, where the sales have largely been part cash and part notes, must be greatly affected if the dealers who have heretofore been able to dispose of such notes to banks are suddenly denied banking accommodations. One reads various statements in the financial papers in reference to the attitude of the Federal Reserve Banks and their member banks. I have read widespread denials that banks are discriminating against automobile or truck paper. However, our information is that in many parts of the country this is the case. I would not say that this industry has been singled out as against all others. No doubt there has been a general denial of credit by banks due to the fact that federal bank reserves have been reduced to a point where they feel they should not go lower.

It is difficult for the writer to understand

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why there should not be large amounts of money available now, when the per capita circulation is about the maximum in the history of this country. It would seem that there is a large amount of money being held out of circulation by thousands of people who should deposit their money in banks, but who are, no doubt, keeping it at home or elsewhere. However this may be, the fact remains that the industry has been slowed up materially due to the banking situation. We have been repeatedly told that there is plenty of demand for trucks, but the dealers can not finance the sales; consequently, they are unable to buy more trucks.

Our business for this year has been nearly double in volume that of last year for the same period. With the enormous crops that are being produced this year, it would seem as if there should be an enormous business and that trucks should be in great demand, and that there is no real valid reason why there should be any slowing up whatever in the truck industry. Rather, there should be an increased demand. Basic conditions are fundamentally sound, it would seem, and an early return to normal production would seem almost inevitable.

FULLER & SONS MFG. CO.,
F. D. Fuller, *Pres.*

Kalamazoo, Mich.

Demand Will Materially Improve

To the Editor.—We have at the present time approximately 90 customers using our line of heavy-duty engines, the greater majority of them being for truck purposes. A great many of our customers have revised their schedules with us and in some instances have requested us to hold up shipments until further notice. This means in most cases that we have a fair stock of engines on hand. Due to the fact that their business has fallen off, they are waiting until their stock of engines has been worked down before receiving any more shipments.

We have felt that the truck industry needs the moral support of every one now and with this end in view, we are using large advertising page in the Saturday Evening Post of September eleventh to urge the necessity of supporting the industry. I think that the worst is about over and very shortly the demand for truck parts will materially improve. I am very optimistic as to the future of the truck industry.

BUDA CO.,
L. M. Viles, *Pres.*

Harvey, Ill.

Traction Magnate Offers Battle to Former Motorman for Fares

Men who seek to operate motor 'buses in Illinois are having difficulty in counteracting the opposition of the electric traction lines. Joseph K. Choate, receiver for the Aurora, Elgin & Joliet Interurban line, has filed a petition with the State Public Utilities Commission, asking that an order be issued, prohibiting the newly organized Smith 'bus line from operating motor vehicles between Aurora and Batavia, a distance of ten miles.

It is complained that the company, which is a competitor of the traction line, has not filed a certificate of necessity or convenience, nor a copy of its tariffs, and, is, consequently operating contrary to law. It is charged that the 'buses leave the terminals at Aurora and Batavia, five minutes before the departure of the electric cars and endeavor to handle business that rightfully belongs to the complainant. The new 'bus line was organized by M. K. Smith, who was formerly a motorman with the traction line. He carriers passengers between Aurora and Batavaia for twenty cents, the same as charged by the electric line. The date for the hearing has been fixed for September 25.

Winther "Special Delivery" to Carry Ton Load at High Speed

The Winther Motor Truck Company has produced a new model, the "Delivery Special." This power wagon is designed to operate at passenger car speed under a load of from ¾- to 1-ton. Complete equipment is one of the features of the new machine, which is powered by a Herschel-Spillman 4-cylinder "L"-head engine, 3½-inch bore by 5-inch stroke. The cylinders are cast en block with the upper half of the crank case. Lubrication is by pressure feed. Westinghouse distributer and starting and lighting systems are used. A Willard storage battery is regular equipment. A Stromberg 1-inch carbureter is used and cooling is by means of thermosyphon, in which system the radiator is a tubular core with cast tank.

Unit power plant construction is employed; clutch is Warner multiple disk; transmission Warner. Three forward speeds and a reverse are provided. The rear axle is of the internal gear type with "I"-beam load carrying member and taper roller bearings throughout including the wheel bearings. Chassis frame is of rolled steel channel section 5-inches deep. Springs are of alloy steel, semi-elliptic front and rear. The braking system is of the external contracting type. Wood wheels with demountable rims are regularly furnished, equipped with pneumatic tires 34 by 4½ front and 35 by 5 rear. The wheel base is 135 inches.

Hoffstaedter Resigns.

Hugo Hoffstaedter, who organized the Polack Tire & Rubber Company in 1912, has resigned as its president, having disposed of his interest in this business to the Buckeye Rubber Products Company, of Cleveland, Ohio. This concern will continue the manufacture of Polack tires under the same trade name, with largely increased facilities.

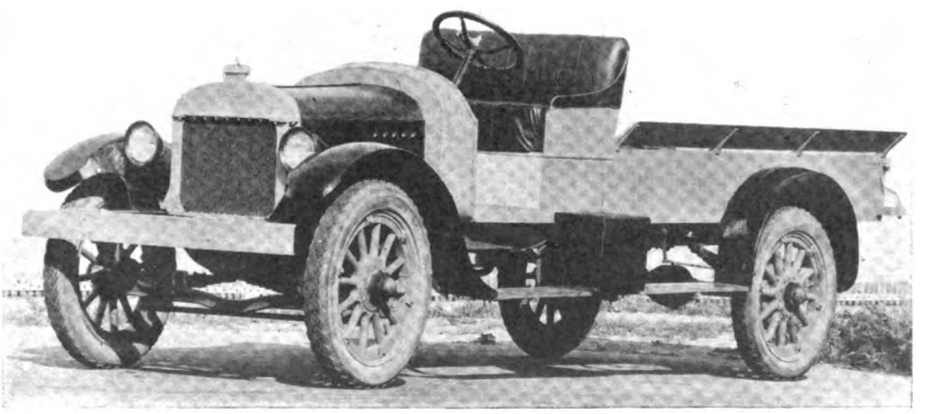
Mr. Hoffstaedter is well known in the tire industry and will be remembered by a number of his friends as one of the pioneers who introduced the old Continental Tire into this country more than fifteen years ago. He was one of the first to adopt the slogan "One must serve to lead," knowing that service is the fundamental of all business success. He installed the first pneumatic tire repair and service station in New York for the Continental Company and after that pattern, made similar installations in the principal cities of the United States. He was affiliated with the auto industry in England and other foreign countries. Mr. Hoffstaedter's future plans have not been announced.

Illinois Company with $100,000 Capital to Start Trunk Line

The Chicago, Kankakee, Watseka & Danville Motor Truck Company has been incorporated with capital stock of $100,000. Headquarters will be in Kankakee, Illinois, and Edward Regnier, one of the incorporators, will be general manager. The completion of the Dixie Highway between Chicago and Danville, giving a concrete road for the entire distance, makes it possible to operate a motor truck line daily between the two cities. Products of the city and farm will be carried back to Chicago and goods for the merchants along the route will be brought back. A Chicago terminal has been provided and a stop will be made at Chicago Heights. Ten motor trucks will be operated at the outset and these will be added to from time to time as business develops.

Peoria Taxes Wheels.

The city council of Peoria, Illinois, has adopted a new wheel tax ordinance effective October 1. Even bicycles and tricycles, ridden by children, must pay a tax of $2 a year. The scale for horse-drawn vehicles ranges from $2.50 to $10; motor 'buses $10; motor vehicles, not motor trucks, $4 to $8 a year; and motor trucks, $5 to $15, according to horse power. Firms engaged in manufacturing or dealing in motor vehicles will be required to pay annual tax fee of $6 for every dealer's license fee issued. There is much opposition to the measure but the council holds that the conditions of the public finance forces the action.



Winther "special delivery" ¾ to 1-ton wagon.

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Titan Builds Short Wheel Base Machine for Road Builders

The Titan Truck Company, Milwaukee, has put on the market a special high-powered, high-speed 2½-ton short wheelbase machine, mounted on pneumatic tires, for the road contractor.

The purpose of this motor truck is to run directly from the source of the material supply to the mixers, over the subgrade. By the use of 36 by 6 front and 42 by 9 rear pneumatic tires all danger of cutting-up the subgrade is eliminated, and the special short wheelbase of 128 inches makes short turns, which are a necessity in this kind of work, possible. The most practical body equipment consists of a horizontal hydraulic (underneath) hoist and a 3-compartment (three batch) body.

This motor truck, at a governed motor-speed of 1,100 r.p.m., can maintain a road-speed of 25 miles per hour without injury to the chassis in any way. This is made possible by the use of a big Buda 4¼ by 5½ engine and a Clark internal-gear axle with a reduction of 8 to 1.

Power is obtained by the use of a Cotta constant-mesh transmission having a reduction in low of 5.2 to 1, so that the total reduction in low is nearly 42 to 1. Transmission is in unit with the motor and has 4 speeds forward and 1 in reverse. Engine is force-feed lubricated; ignition by Eisemann high-tension magneto with impulse-starter. Carbureter is Stromberg. Rear axle, unlike customary 2½-ton practice, is built with sturdy radius-rods, permitting the use of long, flexible springs to take away the danger of injury to units from the high-speed of the truck.

Standard equipment on this chassis consists of oil dash and rear lights, powerful electric searchlight drawing its current from generator driven from motor (no battery), driver's cab, glass wind-shield, speedometer instead of the customary hub-odometer, and heavy angle-iron bumper. Price of chassis on solid tires is $3,400 f. o. b. Milwaukee; on pneumatics, $3.850.

Points to Need of Trucks At Big Ocean Terminals

WHARFS NOW USED FOR STORING GOODS

Efficient trade development demands that more attention be given warehousing and trucking, in the opinion of R. S. McElwee, assistant director of the Bureau of Foreign and Domestic Commerce, who stressed the fact in an address before the recent Increased Production Conference of the Chamber of Commerce of the United States. He urged that business associations unite to bring about reforms which will overcome the tendency to use wharves or piers for short-time storage.

"The problem of demountable bodies at rail and marine terminals, and store-door delivery, or zone delivery," he said, "is a bigger problem than individuals can solve alone. It is such organizations as the Chamber of Commerce of the United States and other business men's associations that must unite in a determined effort to bring about these reforms. The lower prices made possible and the resulting widened markets will result in greater production."

That terminal congestion problems at rail centers and ports ultimately will be solved by the use of motor trucks and demountable bodies is also the contention of ship-by-truck advocates and many transportation experts.

In an address recently at a transportation conference, E. Farr, director of the Firestone Ship-by-Truck Bureau, predicted that in a relatively short time railroad companies will be unloading cars immediately upon arrival at a terminal, their contents being placed in demountable motor truck bodies for quick delivery to consignees or for storage in zone warehouses. He pointed out that this system will represent a saving of millions of dollars, not only in freight car requirements but also in terminal facilities.

In New York City alone consumers would be saved $45,000,000 in freight costs yearly, according to B. F. Fitch, head of the Motor Terminals Company of New York and Cleveland.

International Tour Blazes Trail for 1,400 Miles of Better Roads

The good roads movement has been given tremendous impetus in Northern Ontario by the recently completed 1,400-mile tour of boosters held under the auspices of the Michigan Pikes Association.

Consisting of 60 machines carrying more than 200 motor enthusiasts, this international tour followed roads unknown to motor vehicles in order to stimulate construction of a highway that will enable motorists to travel through Ontario via Windsor, Toronto, North Bay and the Soo. It is hoped ultimately to bring about completion of the northern highway in Ontario to enable tourists to motor through the summer resort country, entering Canada either at the Soo or Windsor and travel in a circle described by going from the Soo to North Bay and Toronto.

Starting from Detroit with a total of 60 machines, including three kitchen trucks, mortorized lighting plant and shower bath truck, the caravan traveled for 15 days, meeting with an even more enthusiastic reception than on five previous trips that had resulted in boosting construction of modern roads.

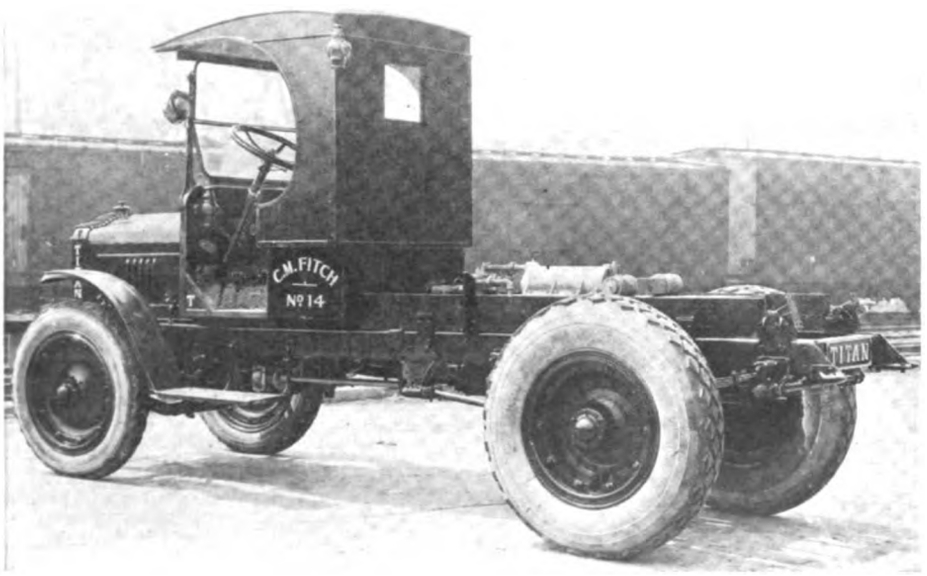
Over 90 road meetings were held on the tour, among the speakers being Hon. F. C. Biggs, minister of public works, Ontario; Hon. Albert Grigg, deputy minister of lands and forests; Dr. P. E. Doolittle, president Dominion Good Roads Association; L. E. Allen, president Ontario Good Roads Association; Horatio S. Earle, father of good roads in Michigan; Frank S. Rogers, Michigan State Highway Commissioner; and Capt. W. S. Gilbreath, promoter and founder of the Dixie Highway.

Motor Truck Proves Reliability on Regular Suburban Hauls

During the last two years, when William Winkler has been making suburban hauls for the Steele-Wedeles Company, wholesale grocers, Chicago, he has kept accurate record of the service rendered by his 2-ton Service power wagon. The machine was bought in the summer of 1918 and during the six months from July 1, 1919, to January 1, 1920, it piled up a mileage of 7,402, having operated 153 days out of a possible 154.

This machine is in daily service between Chicago and the towns of South Chicago, Homewood and Hammond, making an average daily run of 48.39 miles with 30 stops, and frequently returning to the wholesale house in time for a short haul in the Loop District of Chicago.

Formerly all these groceries were shipped by express or freight, but the motor truck has proved cheaper and saves an untold amount of time. As a result of this service the Steele-Wedeles Company has been able to increase its business very materially in the territory mentioned.



Titan short wheel base road contractors' truck.

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Dealers Generally Optimistic

Replies to Power Wagon Query on Market Outlook Show Motor Truck Dealers Are Expecting Increased Future Business. Other Letters Next Month

Anticipates Good Fall Trade

To the Editor.—Truck buying has been reasonably active in our territory until about August 1, since which time it is very quiet. The reasons, we think, are present financial stringencies which have frightened rather than hurt business men. We find a general policy of delay attributed to reasons outlined. The packers seem to be going ahead as usual. We have cancelled no future orders, but, on the contrary, are doing our utmost to get more than our allotment of trucks because, while business is slow just now, we anticipate a good fall trade and that is especially true among our dealers. Our territory covers the upper half of Illinois, the eastern part of Iowa and practically all Wisconsin. We have experienced no difficulty in obtaining credit that I know of, and, inasmuch as our own acceptance corporation finances our purchasers, we have had no difficulty along that line. We are not aware of any policy of discrimination against that particular paper on the part of our banks.

BRANCH MANAGER.

Chicago, Ill.

Troubles Are Local

To the Editor.—The situation as now existing has two angles. In my opinion, the first is that the situation is, in nearly all instances, local. In order to qualify this we point out that our territory covers the States of Pennsylvania, Delaware, Maryland, Virginia and North Carolina, and the District of Columbia, and portions of the States of New York, Ohio and West Virginia. The Pennsylvania and West Virginia territory has been unusually productive in recent weeks, whereas the Maryland-Virginia territory has been unusually poor, and the North Carolina territory only fair. Therefore, this office is convinced that the matter of business depression is really local and governed by conditions obtaining in respective communities.

The second angle is, that the financial situation, as it exists nationally, must be affecting the buying attitude throughout the territory in view of the fact that business of to-day is below normal. Locally, that is Norfolk, truck buying has been very lethargic, which is not due to a tendency of delaying on the part of the purchasers and users, but, to a marked extent, is brought about by the following:

First, there have been over 25 failures or suspensions in the passenger car and truck lines in this city, and with nearly every suspension or failure one or more banks have found themselves with warehouse receipts covering vehicles, which the makers show no attitude to move. This, naturally, has caused the banks to circularize some of their best business customers and offer the trucks at approximately the sum which they have lent (being 80 per cent of the net cost price to the dealer), in nearly all instances. Thus, when the picked businesses of the city are offered trucks at below cost prices, on terms that no legitimate dealer can compete with, it means the loss of potential sales, which hit those dealers who have succeeded in remaining in business during this critical period.

Secondly, on account of the peculiar situation whereby Norfolk was practically the center of very great naval and army activities during war time and since, there have been hundreds of new and slightly used army and navy trucks offered at ridiculous prices.

Thus, the legitimate dealer has been facing, not only a critical national situation, in which the disinterestedness of the Federal Reserve Board manifests itself, but likewise has been confronted with the most dangerous conditions that can confront a community.

As for the future, it would appear that the formation of new acceptance corporations, whereby responsible dealers are financed for units on their floors by the factories themselves, will insure that in the future banks will not be asked to finance concerns' trucks for legitimate manufacturers, and only the illegitimate concerns, who in this emergency have shown no inclination to move their orphaned units, will seek credit. It is obvious that this will be conspicuously lacking.

Finally, to sum up for the past, present and future: Unless the many acceptance concerns start cutting their present prohibitive prices for financing units, there is going to be a growing tendency to hold back, as the present rates are unquestionably prohibitive.

As for ourselves, we believe that the peak of the situation has been passed; that the next four months will see a complete closing of the history of this situation, thus lightening truck dealers' burdens. But unless publications like your own and the great national organizations do their best to impress the manufacturers and the general sales organizations of the factories with the necessity of protecting their products when a dealer organization falls out, the way of the truck dealer with his banker is going to be made mighty hard, and in many instances the road is going to be impassable.

FORST BROTHERS, INC.,
S. R. Heller, *Vice-President.*

Norfolk, Va.

Will Have No Cancellations

To the Editor—Conditions existing throughout our territory to-day are of the very best. There is only one thing lacking in our territory, and that is the public in general. They remind me of an ostrich. When he sees a thing, and is a little afraid of it, he runs to a spot and sticks his head into the ground and feels that he can not see trouble and is very safe. I would say that this is what a great percentage of the people in the United States do to-day, and they are making conditions what they are. In doing that I call them pessimists and not optimists, for an optimist never sees trouble and gets along nicely. There are still just as many trucks purchased to-day as a year or two ago, but we have changed our sales technique in order to do business under present conditions.

Do you realize that we have one of the greatest farming and dairying states in the union. In the year 1919 Wisconsin produced 9,000,000 pounds of milk from 1,850,000 cows on 179,000 farms; raised 1,500 pounds of cheese a day, total value $9,000,000; produced 4,250,000 pounds of ice cream valued at $4,500,000; raised 60 per cent of the peas in the United States valued at $14,000,000; produced one-fourth of the eggs of the country valued at $15,000,000; places annually on the market 1,000,000 pounds of pickles; and has 3,000,000 pounds of fish in storage. We feel here that there is no limit to motor transportation on the farms.

The bankers in the average small town still have an opinion that anything in the automobile industry is a luxury. How narrow minded some people seem to be! They never stop to realize that, if we took the automobiles out of the country to-day, we would be set back 100 to 125 years, and yet the automobile industry is just in its infancy with an age of 22 to 23 years. The bankers throughout the United States must be sold on motor transportation.

We are delivering all the trucks we can possibly get from the factory and have no intentions of cancelling any orders; in fact, we are asking for more and more all the time. We have a system through a banking and security company that finances our purchasers when buying trucks. The buyer pays one-third of the cost of the truck and meets a note each month for 10 months following, and we find this very satisfactory to our dealers as well as ourselves.

I have made a study of motor transportation and find that conditions in our territory, which is the only one I am familiar with, are of the very best at the present time, regardless of the number of pessimists. We realize that brains are like fiddles, the more they are used, the better they get.

NASH SALES CO.,
E. A. Rogalska,
Mgr., Truck Sales Dept.

Milwaukee, Wis.

Business Better Than Hoped For

To the Editor.—The truck business in our territory is more satisfactory than at any previous August period. In fact, it is better than we had hoped for. In some lines of business, which are hampered by conditions peculiar to themselves, possibilities lie dormant, but other lines more than make up for the shortage here. In some cases sales are lost due to credit restrictions. Of this we have no doubt, but we can't say that there is in any sense a determined stand against the truck division of the automotive industry, in spite of the fact that there is a well directed and effective sentiment acting against the car business.

Our customers—those of good credit standing—find little difficulty in getting the necessary funds wherewith to finance whatever trucks they may be in need of. The fact that we have exercised a very discriminating policy with respect to the extension of credit on our past time sales is now standing us in good stead, and the finance companies are accepting a continued line of the good character of purchasers. We have had no difficulty in getting funds on our time sales in this quarter.

We look for a substantial truck business in the next six months, and our view of the immediate future is very optimistic, more so than it was a month ago, when it seemed that conditions were going to force a reduction of truck sales.

LACKAWANNA AUTOMOBILE CO.,
Harold Conrad, *Gen. Mgr.*

Scranton, Pa.

Little Trouble in Financing

To the Editor.—We sell a great many business cars but very few trucks. Truck buying is rather slow, and the line of credit granted has something to do with the sale. In our business we have had little trouble in financing our sales but some of our dealers, who are not too strong financially, have had more or less trouble. We believe in the motor vehicle business and do not believe the demand has yet been supplied. It is still possible for the responsible dealer to get necessary credit in carrying on his business, but the man whose credit is not well established is having some trouble. We are optimistic as to the business future and feel certain it can not fail to be good for the man who has real value to offer the buyer.

JNO. BURTON ARBUCKLE.

Erie, Pa.

Expects Good Fall Trade

To the Editor.—There seems to be at the present time a tendency for prospective purchasers to hold off as long as possible before buying additional equipment, apparently fig-

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uring that the price of motor trucks is going to drop within the near future. As you are aware, some of the pleasure car manufacturers have cut their prices and buyers are bringing this point up to our salesmen when they try to force immediate business. Whether they are right or not, of course, the future will demonstrate. The writer, however, does not anticipate any cut in motor truck prices for some time to come. Some of the larger buyers are holding off due to money stringency, and we have had quite a few tell us they would not purchase any additional equipment until after January 1st, 1921, stating they would take out what equipment they had on order and would confine themselves to that for the balance of this year. We are, therefore, looking for a fairly active market after January 1st, both from large and small buyers.

The credit situation, of course, is very much strained, and there are very few companies who handle truck paper who have been able within the past few months to take on additional business. However, this does not cut much figure with our company, as practically 60 per cent of our business is spot cash. We have not found it necessary to cancel any orders which we have sent to our factory. In fact we get additional trucks every week, most of which, however, it has been necessary for us to drive in from Springfield rather than take a chance of the serious delays which have been occurring within the past 8 or 9 months, when they are shipped by rail. We have, however, within the past 10 days received 10 chassis by rail, which have come through and been delivered within a week after date of shipment.

While our business this year has not been as good as it was this time last year, we are looking for a fairly active fall business.

KELLY-SPRINGFIELD MOTOR TRUCK CO.,
H. S. Dunlavy, *Mgr.*
Chicago, Ill.

Banks Handicap Business

To the Editor.—Principally our reasons for not selling trucks and the sudden drop off of the sales is the fact that our prospects and purchasers do not have the cooperation of their local banks. We will give you one example which covers the entire territory that we control on trucks. Recently we sold a truck to a produce man in a small country town who was using a truck practically worn out and needed a means of transportation for the purpose of gathering in his produce from the country and selling it. This man has 200 acres of land in the best part of Iowa without anything against it and owns his business without debt. We sold him one truck for $2,300 and on the delivery of the truck he needed $1,000 from his local bank to complete the purchase price of his truck. His bank advised him he did not need a truck and refused the money, stating that the dealer selling the truck should carry the note. Our local bank refused to carry the note on the ground that they are not financing any one to purchase cars or trucks. Consequently we did not deliver the truck as we, as well as any other dealer, can only finance to a certain limit.

During the early months of this year truck and passenger car business was good and continued good until the banking interests began calling upon business institutions to reduce the number and size of their loans. This demand became more stringent as the season advanced. It was but a short time before their attitude became general talk, so there was apparently an epidemic of "No Buy." This "No Buying" situation is contingent very largely upon two factors: One, a tendency by the banks to discourage all ideas of buying a truck or passenger car and advising intending purchasers to get along with their present equipment and leave their money in the banks; the other, the buyer who needs a loan to assist him in paying for the goods he wishes is generally refused assistance from the financial institutions.

This attitude, of course, slowed up sales, and stocks of goods remained in storage with interest and storage eating into the heart of a business. Accumulating stocks necessarily forced a cancellation of orders with the factory and this in turn slowed up production or the factory had to insist on the contracts being carried out.

Iowa still would be a fairly good market for the automobile and truck industries if the purchaser could have the support from the banks and were it not for the declining prices in farm products, together with the shortage of railroad equipment to move crops and stock to market. The banking attitude and the shortage of railroad equipment are the strongest drawbacks to a fairly good business at this time. Uncertainty in the political field just prior to the presidential election has some influence on business. Iowa is purely an agricultural state and whatever affects the farmer affects every line of business.

FRANKLIN MOTOR CO.,
A. N. Brackett, *Pres.*
H. N. Adamson, *Gen. Mgr.*
Des Moines, Ia.

Sales 75% Better than 1919

To the Editor.—Our experience is that business men, aside from those in the coal industry, are buying trucks as actively at this time as they have been at any time during the season. Coal delivery stocks are depleted, and they seem to have no assurance of getting anything like a normal supply, which naturally causes them to hold back on new equipment. The farmers in this territory are buying 50 per cent more trucks this year than last, and there is at least one hundred per cent greater feeling that they must eventually purchase truck transportation than has ever been. Grocerymen, laundries, bakeries, and soft-drink bottlers are busier at this time than they have been, and are naturally having to replace their old equipment and add new equipment to supply their needs.

There does not seem to be any difficulty for farmers or business men to obtain credit from the bank to purchase trucks. The bankers in this locality seem to think the truck a necessity and are willing to lend any assistance they can in order to help the men in the truck line to dispose of their goods. We are very optimistic, and believe that the coming year will be the greatest in the history of the industry for the selling of motor wagons in this territory, and the present year was 75 per cent better than the year previous.

Of course, long-distance hauling with trucks will be greatly increased as soon as the roads are in proper condition. There is a movement being started now among the business men, Automobile Trade Association, Chamber of Commerce, county and town officials in this part of the state to make arrangements to clear the roads of snow during the coming winter. While it is apparent it will cost quite a sum of money, should there be a heavy snow, to open up the highway, the cost will be small compared with the benefits to be received from having the roads open.

The writer is vice president and chairman of the vehicle section of the Automobile Trade Association, and recently talked with a large majority of our members in the automobile business. There does not seem to be a letting up of business so far as local sales are concerned. There is still a shortage of vehicles from the producer, which we understand is due largely to financial problems.

REO MOTOR CAR CO.,
C. W. Williams, *Mgr.*
Rockford, Ill.

F. W. D. Directors in England

W. A. Olen, president of the Four Wheel Drive Auto Company, Clintonville, Wisconsin, with D. J. Rohrer and C. F. Folkman, members of the board of directors, are in England in the interests of the company's foreign business.

From day to day reports show that the gasolene supply in Canada is becoming short. Notices have been printed and widely circulated recommending users to conserve gasolene and reduce consumption in every way.

Milwaukee Trucks Now Operating Under New Traffic Regulation

A new ordinance regulating the operation of motor equipment in Milwaukee, copied after ordinances in effect in Cincinnati, Philadelphia and other large cities, is now in force. The ordinance favors motor trucks equipped with pneumatic tires in so far as it allows air-tired machines to run at the rate of 15 m. p. r. while machines with two or more solid tires are restricted to 12 m. p. r.

Other provisions are that every motor truck must be equipped with a speedometer; undergo weekly inspection of brakes; carry the name of the owner or operating concern on both sides, with distinguishing number for fleets.

The maximum gross weight of vehicle and load combined upon any axle must not exceed 24,000 pounds. The maximum length of a motor truck is fixed at 30 feet, and with trailer, at not to exceed 70 feet. The maximum width is fixed at 115 inches, excepting in case of loading with hay, straw or similar loose material.

Crebbin Rules Stoughton Trucks

Fred Crebbin, Jr., formerly factory manager of the Master Trucks, Inc., has assumed his duties as general manager of the truck division of the Stoughton Wagon Company, of Stoughton, Wisconsin. Stoughton's new truck division chief was a pioneer in the industry. He began his career with the Packard Motor Car Company for whom he served several years as head of various departments. In 1908 he left Packard and took a place with the Thomas Motor Car Company, of New York. After three years he severed his connection with that concern to become general sales manager of the S-G-V Company. He was with the Hurlburt Motor Truck Company in New York City, for seven years before going to Chicago in the spring of 1919 as factory manager of the Master Trucks Company. Mr. Crebbin will have complete control over matters pertaining to the truck division of the Stoughton Company.

Demonstration Tours

During the week of August 16 the Louisville Truck Dealers' Association, with twenty dealers represented, made a tour of several counties in the state in the interests of motorizing the farm. On August 30 a similar tour left Cincinnati for a week through the Blue Grass regions of Central Kentucky. The Farm Development Bureau of the Memphis Chamber of Commerce is preparing for a demonstration tour through Eastern Arkansas during the week of September 13.

Bethlehem to Build 'Buses.

For some time, in a small way, the Bethlehem Motor Corporation has been making motor 'buses. It is now reported that interests closely allied to Bethlehem are preparing to go into the 'bus business in a big way. Part of the plan is said to include a national educational campaign in which the motor 'bus will be placed in its proper relationship to the public as a public utility. Experts are covering the field now with this end in view.

Heil Company Enlarges Plant

The Heil Company, Milwaukee, is constructing a new addition to its plant, which, when complete, will give the company 150,000 square feet of floor space. The new addition, 136 by 260 feet, will contain two crane runways. This will make a total of seven 10-ton cranes in the plant. A considerable portion of the new plant will be devoted to the manufacture of gasolene storage tanks.

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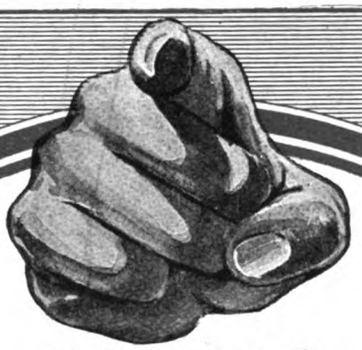

YOU!

Mr. Dealer in 1930

WHAT will your truck tire business be ten years from now?

Will your establishment have prospered by your business foresight and good buying judgment?

Build your foundation *now* on the bed rock of success by stocking the two biggest sellers on the truck tire market today.

THE NEW MONO-TWIN—a grainless, non-splitting, solid truck tire on a single large base, possessing all the advantages of both the single and dual, without the disadvantages of either.

"NOBBY" CORD—the pioneer pneumatic truck tire—a sturdy-heavy-duty tire that guarantees your trade a saving in every phase of truck operation.

Stock now for a big demand.

'Nobby Cord' *Mono-twin*

United States Tires are Good Tires

U.S. RUBBER SYSTEM — UNITED STATES RUBBER COMPANY AND ASSOCIATED COMPANIES

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Pierce-Arrow Offers New Line Powered by Dual-Valved Engines

Announcement of an expanded line of motor trucks, powered by duel valve engines, is made by the Pierce-Arrow Motor Company, of Buffalo, New York. The new line includes 5-ton, 3½-ton and 2-ton motor trucks and a tractor unit, each equipped with double ignition and electric lights.

"The dual-valve engines equip the machines with a pulling power superior to any demand," said Robert O. Patten, truck sales manager of the company. "Moreover, this power is obtained with an increase in economy; gasolene yields more miles per gallon."

The dual-valved engine, constructed on the principle of the dual-valve engine developed by Pierce-Arrow engineers so successfully in passenger car use, has been in process of design and test for more than two years. Extended usage under actual working conditions has eliminated all guess-work as to what its performance is.

Adherence to the basic Pierce-Arrow engineering principles, the company states, insures that the present line retains the distinctive characteristics of reliability and durability. But with the refinement of design, the new motor trucks not only set new performance standards, but establish a record low level of repair and maintenance costs. This is achieved through an accessibility which permits of quick, economical repairs, insuring a minimum of time lost in the service shop and a minimum of repair costs, according to the company's statement.

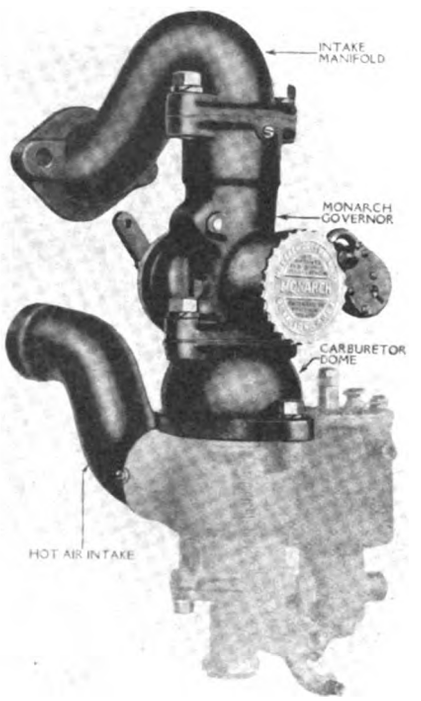
Modernized manufacturing methods combined with an expansion of factory facilities necessitated by efficient war production methods has enabled the Pierce-Arrow company to enhance the quality upon which Pierce-Arrow reputation has been built. More accurate machining, an even greater uniformity of product and improved methods of testing have achieved the result.

Bulletin 114 just issued by the Heil Company, of Milwaukee, describes in detail a full line of electrically welded oil tank bodies which this company manufactures for motor trucks and freight cars. The company also makes a large line of storage tanks.

New Monarch Governor

The Monarch Governor Company of Detroit has placed on the market a new Monarch unit for quick installation on motor trucks. This unit embodies all the well-known Monarch features—operates on the vacuum principles, has no shafts or gears, no wheels, no revolving parts, no connection with any moving part of motor truck or engine; requires no oiling or attention and padlocks at any desired speed.

The manufacturers claim for this governor great flexibility to the varying requirements of road and load, full engine capacity being available whenever needed,



New Monarch governor outfit.

and the adjustment being instant and automatic.

The complete equipment consists of four parts: Special intake manifold, carbureter dome, hot air intake, and standard Monarch governor Model D 4. Installation is very simple and can be done by any mechanic in a few minutes.

England to Motorize Mails

There are indications that the General Post Office, of England, is considering a great revival and extension of motor services for mails, particularly in the more remote country districts. As will be remembered, there was considerable progress in this direction during the years immediately preceding 1914. The war, however, necessitated considerable changes, resulting in a wholesale abandonment of road services and a reversion to "as you were" conditions. Efforts are now being made to recover the ground thus lost.

High Mark for Sewell Sales

Sales of Sewell Cushion Wheel Company for the first six months of 1920 showed an increase of 136 per centum over the corresponding period in 1919. This increase has been largely due to sales expansion program, which was inaugurated early in 1920, when sales offices were opened in Los Angeles, San Francisco, Portland, Seattle, Butte, Salt Lake City, Atlanta, Memphis, Nashville, Akron, Steubenville, Wheeling and New Orleans.

Dunlavy Back in Chicago

The Chicago branch of the Kelly-Springfield Motor Truck Company has again been placed under the management of H. S. Dunlavy. Mr. Dunlavy took charge of the Chicago sales in 1916 and continued in this capacity until the spring of 1920 when he was placed in another position for the same company. This work now having been finished Mr. Dunlavy has been placed in his old position.

Crude Ruber at Low Record

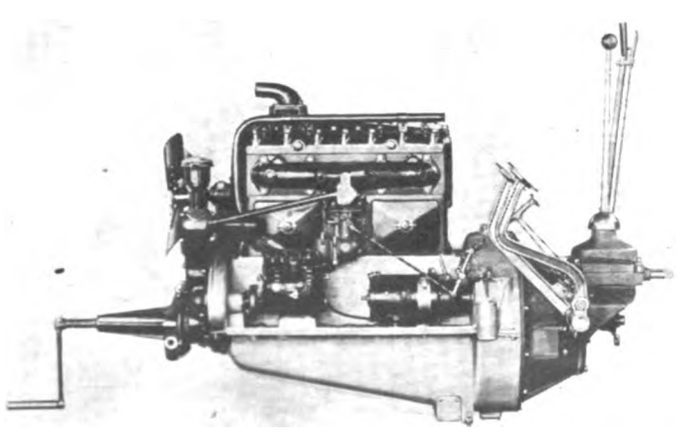
Crude rubber at from 28 cents to 30 cents a pound is selling at the lowest prices ever recorded for the commodity. Current quotations represent a gradual decline of about 20 cents a pound from price of 50 cents at which crude rubber sold about six months ago. During 1919 the price of crude rubber ranged between 44 cents and 55 cents. In 1913 it sold for more than $1 a pound.

Trucks Aid Steel Mills

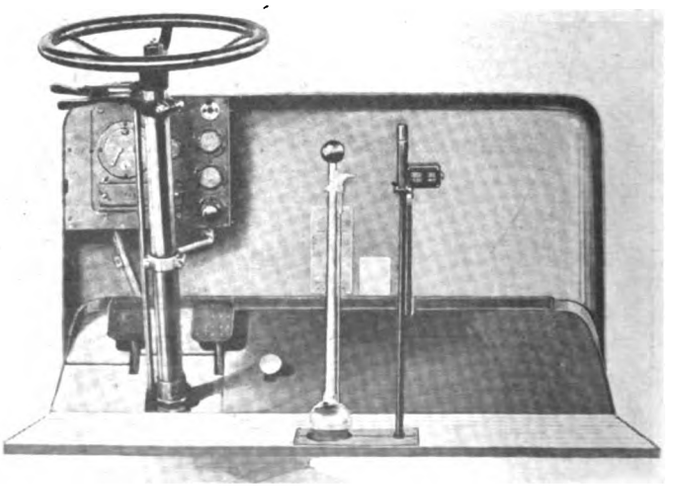
Production and transportation of steel products in the Youngstown, Ohio, district have been kept up during the last few weeks through the aid of motor trucks. The freight tie-up in the steel industry has been most harmful and it is only through the operation of almost 150 motor trucks that the present output of the plants has been possible.

Shultz Sails for Sandow

W. G. Shultz, sales manager for the Sandow Motor Truck Company, is on an extended business trip through England, Scotland, Norway, Sweden, Denmark, Holland and Switzerland. The purpose of Mr. Shultz' trip is to develop the present foreign connections of the Sandow Motor Truck Company.



View of new Pierce-Arrow dual valve engine—Clutch and transmission assembly showing Delco double ignition system.



Dash view of Pierce-Arrow dual valve truck.

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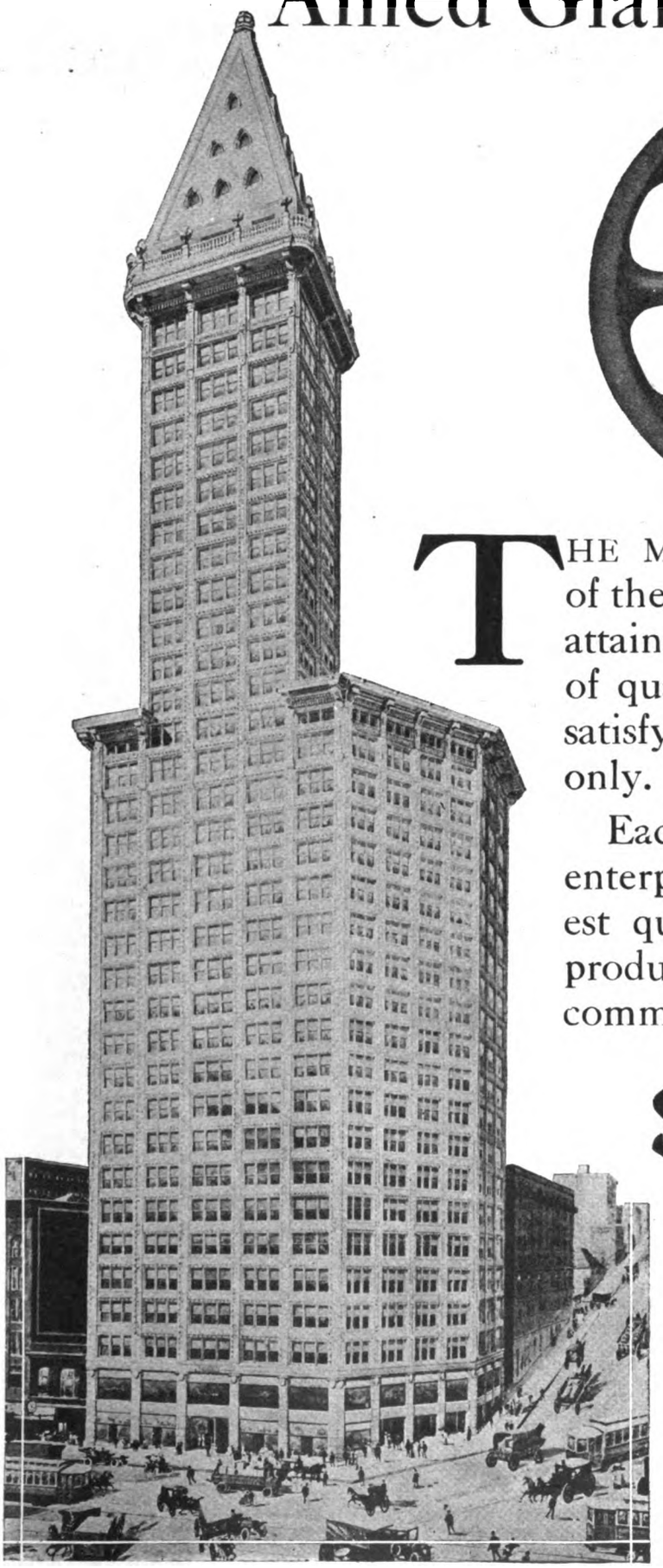
Allied Giants In Success



THE MANUFACTURING SUCCESSES of the Smiths, since 1845, have been attained solely through superiority of quality and design, to meet and satisfy a demand for THE BEST only.

Each and every Smith industrial enterprise has turned out the highest quality of product possible to produce, and sold it at a reasonable commercial price.

Smith Wheels
"EVERLASTING"

are THE BEST for Trucks, Tractors and Trailers. Their quality makes them such.

They can be depended upon at all times, for all time.

They are guaranteed, without limit—FOREVER!

42-STORY L. C. SMITH BUILDING, SEATTLE

SMITH WHEEL INC., SYRACUSE

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Dealers Overselling Motor Trucks

By F. L. HENK

Managing Secretary, Detroit Transportation Association

THE motor truck industry has made wonderful progress. Its performance during the world-conflict won for it a place on our transportation plane which it promises to enjoy as long as the movement of commodities from place to place is necessary for man's existence. In France we saw it crossing over shell-torn roads and over no roads at all, carrying its precious cargo of humanity to the front line trenches, and later bringing the sustenance of life, food and ammunition. It is truthfully said that without the aid of the motor truck the war would have dragged an interminably long time.

What the motor truck did in the war, it can duplicate in peace times. As a connecting link between the long distance carrier and the consignee, it serves the public in the cities. As the highway transport, it covers miles of territory, between cities and villages, serving the densely populated districts and the isolated farm house. The storm of the rapid growth of the motor truck and the speed with which it has won its place in our national transportation system reads like a fairy tale. Towns that were stagnant for lack of railroad facilities have blossomed over night into live towns and antiquated country stores have become decked out as if by magic, with the pretty things, formerly seen only in our large city stores. That the motor truck is responsible for these great changes and is proving an economical factor in the development of the nation is admitted by all fair-minded persons.

WE are enthused with the practical results obtained through the use of the motor truck, but there is one angle to the pretty picture of the development of the motor truck which has not received the sympathetic understanding it deserves—the angle of the motor truck owned and operator.

Unfortunately the efficiency which has been increased in the building of the motor truck has not been properly developed in the operation of that same motor truck. Woeful lack of knowledge of operating costs seems to be the rule and motor trucks engaged in commercial hauling often perform services at rates which do not even cover the bare cost of operation and maintenance. We may, at first thought, be inclined to place the blame on the shoulders of the man who operates the machine, and we would to a large extent be right in our conjecture, but there are other reasons which are responsible for this condition. There is the dealer whose sole interest is the selling of motor trucks, with no thought as to the welfare of the purchaser, the dealer who sells trucks on easy payments, with a long string of notes to cover the debt, and who uses as an incentive to the would-be motor truck owner, the promise of "contracts" or "steady work." The motor truck is sold but the promises are easily forgotten. The victim is usually a man who has never before been engaged in any business for himself and lack of business experience makes him an easy prey to the machinations of this class of disreputable dealer. The new motor truck is delivered and when the work fails to develop and notes fall due, we have another individual, the likes of whom, are a menace to the truck industry—the cut-throat operator. This poor misguided would-be business man obliterates himself eventually, but in the process does a lasting harm to the business.

Every growing industry is the target for ambitious politicians and the motor truck is one of these. It is necessary that we have highways upon which to run the motor truck and highways are public property. It is here that the opportunity is afforded to the interests inimical to the motor truck, to get in their work of destruction. Propaganda against the motor truck is spread by these forces and sentiment of the public is aroused. Legislation is enacted to block the progress of the industry which if allowed to continue would stop the use of the motor truck or curtail its usefulness to a great extent.

THE railroad facilities of the nation have long been inadequate to cope with the increased tonnage, and it has become an accepted fact that the motor truck will greatly relieve the situation as far as the short haul is concerned. We are very much afraid that the railroads will not take kindly to our offer and railroad lobbyists have for some time interested themselves in legislation which would tend to block the progress of motor truck transportation.

One other serious situation is developing rapidly throughout the country, which if permitted to continue promises to result in utter ruin of the commercial hauling industry—the "overselling" of motor trucks in certain localities.

A great number of the present day motor truck dealers were the passenger car dealers of yesterday, and unfortunately a great percentage of them have retained some of their old-time selling methods. In selling a passenger car, the dealer can feel assured that the person purchasing the same will receive a certain amount of benefit from the use of the car—there is the country ride—with its healthful fresh air, and the use of the car for business purposes. In a sale of a motor truck, however, there is one important thing to take into consideration—the purchaser must be in a position to make his livelihood from the operation of the motor truck. The unscrupulous dealer cares not a whit as to whether or not the purchaser of the motor truck is fitted mentally and physically to operate the machine, and in a great many cases, the dealer must feel certain in this own mind that the sale of the motor truck is absolutely dishonest.

These are but a few of the problems which confront the commercial hauling industry throughout the country today. There is a very decided need for an organization to cope with these conditions. There are now in existence a growing number of local organizations of commercial haulers, many of which are working out their own salvation as best they can, but the maximum value of such local associations can not be attained until they are welded together into a large organization, national in its scope. A centrally located clearing house for ideals and experiences will go far towards the solution of the many problems encompassing the industry and a well-organized business body, with watchful eye directed towards our national and state capitols to watch legislation will be a great aid towards bettering conditions for the motor truck operator.

Trailer Aids Touring Family to Enjoy Comforts of Home

Since leaving Los Angeles in June Dr. L. Paul Zahn, with his family, has been touring the country and to the present time has covered more than 6,000 miles. With the exception of a few nights spent with relatives along the road, every night found the Zahn family comfortably camped in some secluded spot by the roadside, where they pitched their tent. Comfortable cots were carried along, as well as a complete outfit of cooking utensils and provisions.

"With a pneumatic trailer such as I am using, the motorist can carry along a complement of supplies, and can camp out every night in comfort. He will not be dependent on hotels nor restaurants. We carried five passengers all of the time and some of the time six. We would not have been able to have found room for all of our paraphernalia had it not been for the trailer. The trailer did not impede our speed any as I was able to make 40 miles an hour when the roads were good."

Wisconsin Parts Makes Record Shipment.

Largely due to the management of President W. F. Rockwell, formerly vice president of the Torbensen Axle Company, the Wisconsin Parts Company of Oshkosh shipped 60 per cent as many Wisconsin axles in March as during the whole of 1918. Mr. Rockwell took charge a year ago and since then $250,000 has been spent in new buildings and equipment, all of which now is in use.

Pulford Head Commerce Service

H. L. Pulford has been appointed service engineer in charge of the service department of The Commerce Motor Car Company, Detroit. Mr. Pulford has been in the employ of Commerce for the last seven years, most of his time in the engineering department. In his appointment the Commerce officials have picked a man of executive capacity and engineering ability to head a most important factory department.

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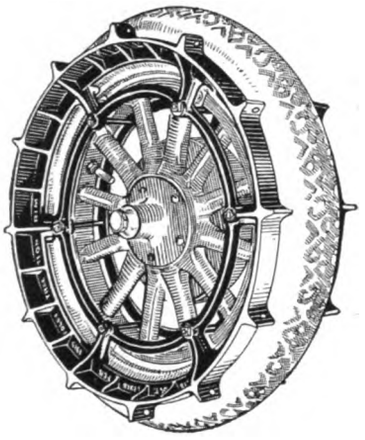
Foley Company Adds Traction Rim for Pneumatic Tired Trucks

The success with which Foley traction rims have met with in motor truck performance is now recognized.

H. B. Foley, president of the Foley Traction-Rim Company and inventor of the Foley rim, for some time has seen the rapidly growing popularity of pneumatic tire equipment for motor trucks and has been quietly working on a traction rim to cover this field. After every conceivable test had been made his pneumatic traction rim for 1-ton trucks using 30 or 32-inch pneumatic tires was placed on the market. The action of Foley traction rims for both solid and pneumatic tired wheels is automatic, simple and practical. On hard



Foley Traction Rim.

roads they do not come into action at all as the rubber tires are then amply sufficient for traction. However, as soon as soft roads are reached and the tire sinks into the ground the traction rim comes into use. Its extra surface bearing, which prevents sinking, together with the many traction lugs take hold so firmly that the drive wheel can not spin, thus affording maximum traction. In case of a puncture or a blowout a pneumatic tired truck equipped with Foley rims can be driven without danger to casing or tube. The rims on pneumatic tired trucks protect the side wall of the tires from tearing when operating in rutty road conditions. These rims are made of the best quality of electric steel castings. They are made in two styles, a split rim for the inside of the wheel and a solid rim for the outside. This dispenses with removing the wheel to make application of inside rim. Provision is also made for the quick application of non-skid chains, which are applied to the cleats on the rim for use on hard slippery roads only.

Trailer Business Booms Under Present Conditions; Orders Grow

Slowing down of business conditions and curtailment of credit in many lines have not affected the trailer industry much, according to reports of members of the Trailer Manufacturers' Association. There have been very few cancellations, and these have been offset by increased orders. The manufacturers expect that as general business gets down to a more economical basis, manufacturers and merchants will look more closely to the cost of transportation and will adopt the trailer more generally as a sure means of reducing the cost of haulage and delivery.

The increase in railroad freight rates is confidently expected to result in a larger development of the ship-by-truck movement. Shippers have already found that goods can be shipped cheaper and quicker by motor truck than by rail for distances of fifty miles or more, and with an increase of 20 per centum in rail rates, there will be a still greater inducement to patronize the highway lines.

Rochester Wants Terminal

Following the very successful pioneer move of Minneapolis in establishing a motor truck freight terminal, the Rochester, New York, Motor Truck Dealers' Association has declared itself as favoring such a plan for Rochester and tentative plans have been drawn. Motor truck owners throughout the city have offered their coöperation and a number of the big department stores are ready to back the plan with $20,000 as a starter. It is claimed that the business of Rochester motor truck haulers will increase 50 per centum under the proposed terminal plan.

Up to June 9, 1920, Ohio had 75,400 motor trucks registered and 400 electric machines. This number does not include the machines that are owned by the state, county and township authorities. It is estimated that the total number of motor trucks to be regisered in Ohio this year will reach 86,000.

CLASSIFIED ADVERTISING

FOR SALE — By the Kentucky Lumber Company, Burnside, Ky. 2—Wickes Patent Vertical Water Tube Boilers, 250 H. P. each, 150 lbs. pressure; arch top, Dutch oven fronts and all necessary valves and fittings.

Automobile Manufacturers

Having discontinued the assembling of passenger cars, we are offering for quick sale a quantity of: frames, fenders, radiators, delco starters, generators, windshields, 32x3" Firestone type E rims and other necessary material for assembling of passenger cars. If interested wire.

Southern Truck & Car Corporation
Greensboro, N. C.

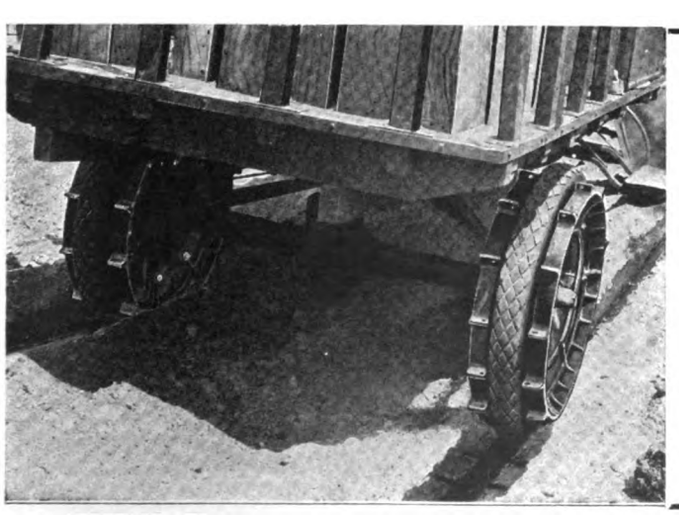
Adopt Standard Cost System

At a general meeting of the motor truck members of the National Automobile Chamber of Commerce held in New York recently and upon the recommendation of the Motor Truck Committee and the National Association of Service Managers, the National Standard Truck Cost System was adopted and it was recommended that all motor truck manufacturers, dealers and users utilize the system in computing motor truck operating costs.

Comparative Tire Weights

The comparative weights of solid and pneumatic tires as fitted to a well known make of English motor truck are very interesting. With solid tires the weight of the front wheels was 152 pounds each; back wheels, exclusive of hub and brake drum, 700½ pounds. With pneumatic tires the same wheels gave a total weight of 591 pounds, a saving of 413½ pounds in favor of the pneumatics.

Excellent examples of the part the motor truck is playing in moving the 1920 crops can be found in almost every state. California is a good example—the 1920 hay crop is estimated to be worth $125,000,000, which is over $34,000,000 greater than last year. A vast portion of this crop will be moved by motor truck, for it is far cheaper to handle it on reasonably short hauls by motor truck because of the labor saved in rehandling.



Sell Easily on First Demonstration

A demonstration of the pulling power of Foley Traction Rims on soft roads, or in sand and mud, will create a sale to every truck owner who has had trucks stuck in impassible spots.

Foley Rims do not come into play until soft places are encountered. THEN THEY PULL!

Sold only through dealers—A few more live-wire dealers wanted.

Made for every make of truck on the market, whether equipped with pneumatic or solid tires.

Showing Ford One-Ton Truck fitted with Pneumatic Tires, and equipped with Foley Traction Rims, two on each rear wheel. Price—$50.00 per set of four, F. O. B. Mpls.

FOLEY TRACTION-RIM COMPANY, Inc.
827 Hennepin Ave. Minneapolis, Minn.

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SHORT HAULS

By Motor Truck Train Must Unsnarl the Freight Tangle

AUTOMOTIVE ATC TRAILER

The Only Remedy for Rail Freight Congestion

THE only remedy for the appalling congestion in rail freighting—which is causing stagnation of industry—is to freely apply motor trucks **and trailers** in the whole field of the short haul.

In general the railroads lose money on short hauls. Their executives openly admit as much, and many of them either want to get rid of this unprofitable and embarrassing feature of their business, or else want to reorganize facilities for its retention. They believe it should be undertaken by trucks **and trailers**—by road trains which provide a system of transportation so elastic as to make freight congestion impossible.

It is now quite clear that any improvement in short haul rail service can only be obtained at the expense of the more profitable long haul service. Under existing conditions the two are antagonistic. This being the case it is but natural that the railroads, perceiving the great advantages of the motor truck train, are actively considering it as an auxiliary and developing its potentialities to maximum.

Many freight traffic managers are at work on the problem. They and the business world they serve at last realize that the day of the road train is actually at hand.

This decision on the part of the railroads will cause a corresponding change in road transportation in general. Hereafter the general purpose of motor trucking will be to develop the cheapest method of hauling merchandise—not necessarily by a single unit, but by multiples wherever their employment is indicated.

The most economical form of road transportation is that which makes provision for the application of motor trucks **and trailers.**

Write for our dealer proposition.

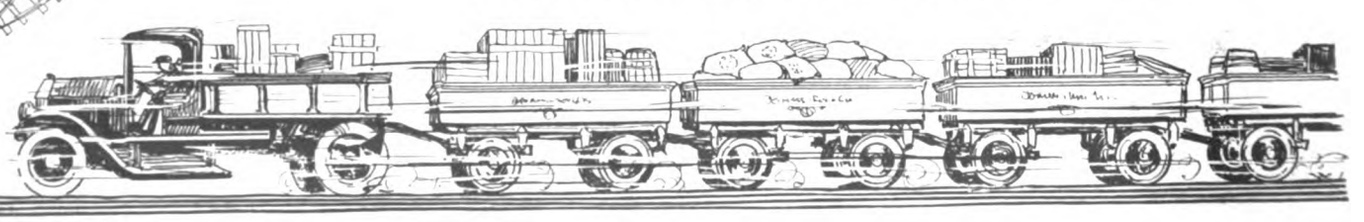
COMPLETE LINE

4 Wheel Semi Pole 2 Wheel

1 to 15 Ton Capacity

Automotive Trailer Corporation

Factory and General Offices: SPRINGFIELD, ILL.



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REYNOLDS

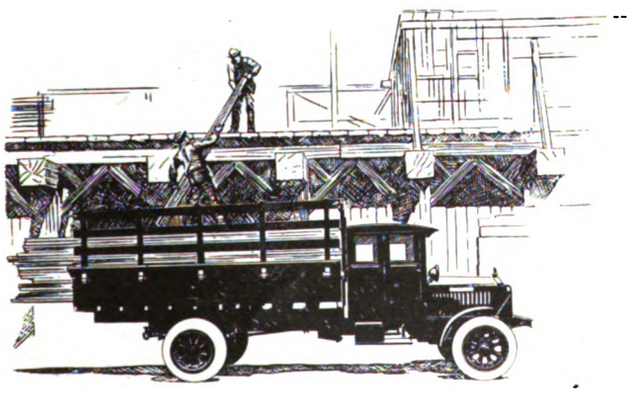
Quality Motor Trucks

Are offered to the First 40 Responsible Distributors who see the Value of this Unusual Opportunity

Reynolds ***Quality*** *wins greater appreciation with each succeeding sale because it is a truck of limitless endurance, ready for any conceivable service demand. It is a truck with ample power and has proven to be extraordinarily economical due to the Reynolds-Hinkley perfected engine which burns all the fuel and burns the lowest grades without lessened performance.*

Reynolds design is as good as Reynolds materials. All suggestions find their way quickly into the Reynolds engineering department, which stands subservient to the needs and desires of the man who is to use the truck.

Reynolds is convinced that the day for the sale of a chassis, with the rest of the equipment left for the owner to buy is past. Reynolds trucks are complete in every useful detail when they leave the factory. The purchaser need only fit the style of body for his requirements and put his truck into immediate service.



Reynolds will produce four hundred motor trucks in the coming year. These will be distributed through forty distributors and dealers who will handle ten trucks each.

The distributors and dealers will be given a new and greater support by the factory. A discount in keeping with present business conditions is offered, a figure which will permit you to realize a just profit.

Moreover, the factory will further assist you to introduce the Reynolds in your territory by a vigorous campaign in your local newspapers, where it will reach YOUR prospects—and the factory will stand the greater share of this campaign expense.

The Reynolds Motor Truck Company offers its proposition only to well established dealers of responsibility. To such distributors and dealers the most satisfactory financial arrangement can be made inasmuch as your banker and you yourself can determine the excellent financial condition of the Reynolds company and the thorough experience and reputation of the men who build this better truck.

Connections with dealers and distributors are being made rapidly. If you are to be among the forty you should make your investigations early. Let us show you our plan without delay. It will convince you of our sincerity in going farther than is usual in helping you to do a profitable trucking business.

Reynolds Motor Truck Company

Mt. Clemens, Michigan

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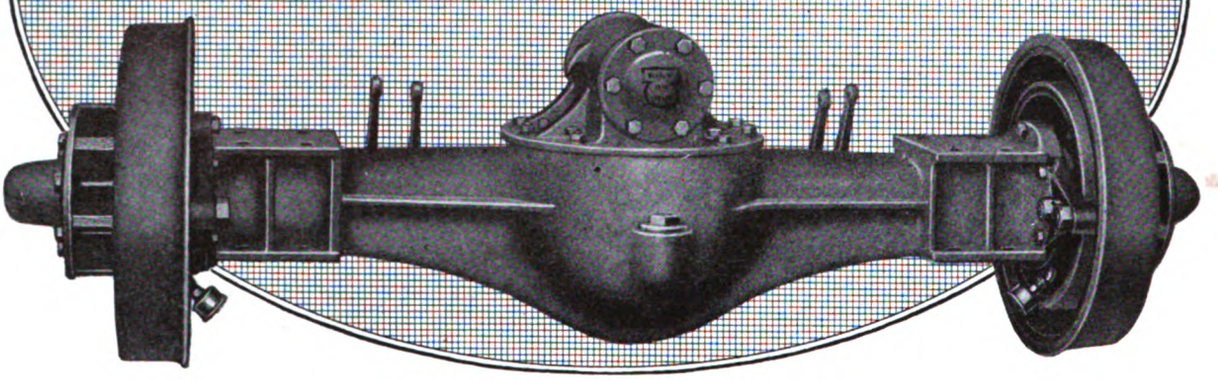
WISCONSIN AXLES



Wisconsin Worm Drive Axles Achieved Success Through Performance

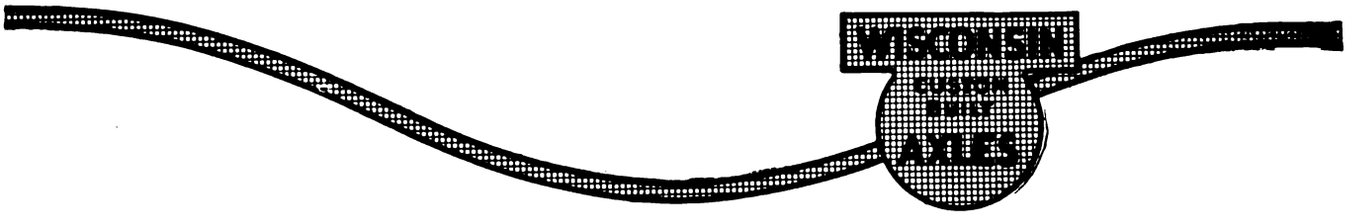
Thirty-five manufacturers of high grade trucks use Wisconsin Axles. This remarkable sales record is due to the record performance of the product.

Wisconsin Axles are the most efficient because they were designed to give the lowest operating costs. The worm gears are 97% efficient which exceeds any other form of bearing. Ball bearings justify their high price, because they transmit more power. The expensive brake design using two sets of drums and shoes means more mileage without renewing brake lining, and also prevents any brake trouble due to grease or oil because they cannot reach the brakes.

Wisconsin Axles create a dealer good will that has kept our list of customers growing just as fast as we find ourselves able to take them on.

WISCONSIN PARTS COMPANY

OSHKOSH, WISCONSIN



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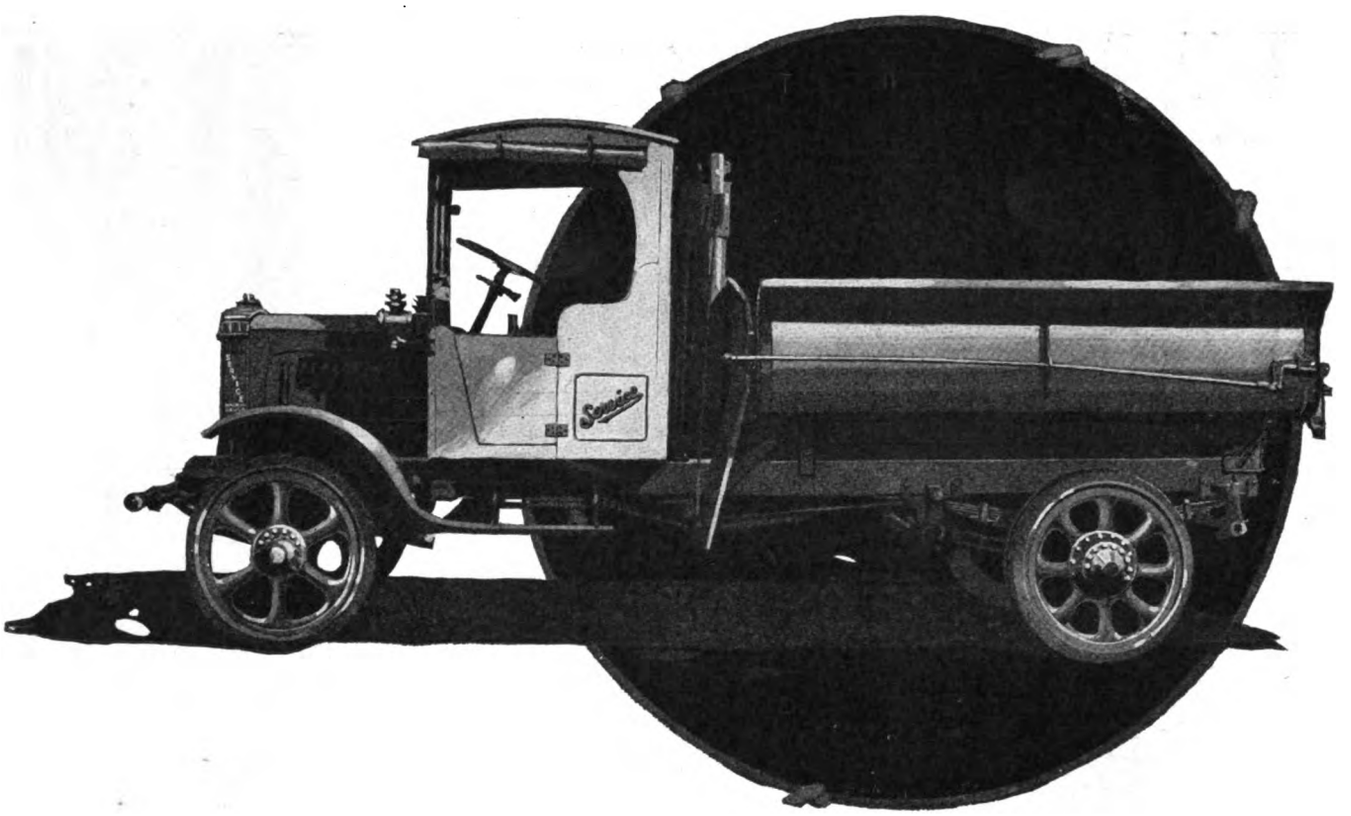

A Powerful Selling Proposition

BUSINESS men now believe in selecting motor trucks of known reliability when replacing inadequate railroad service.

This explains why they are selecting Service Motor Trucks in ever increasing numbers. They want an absolutely proven investment.

The Service Motor Truck has an unrivalled, ten-year record of performance. It has back of it a mammoth factory, a skilled corps of engineers and a nation-wide Service organization.

The Service system of scientific cushioning practically ends the havoc wrought by vibration. It assures unusually long life and low upkeep costs.

The seven Service models, with 80 combinations of power, speed, and capacity, guarantee efficient service.

Dealers find these features, plus dominant advertising programs, of tremendous sales-producing value. They make a powerful motor truck selling proposition.

If you can give adequate service to your customers and properly represent us, write us immediately.

Service MOTOR TRUCK

23

SERVICE MOTOR TRUCK COMPANY ✕ WABASH, INDIANA, U. S. A.

NEW YORK—87-89 West End Avenue CHICAGO—2617-2629 South Wabash Avenue

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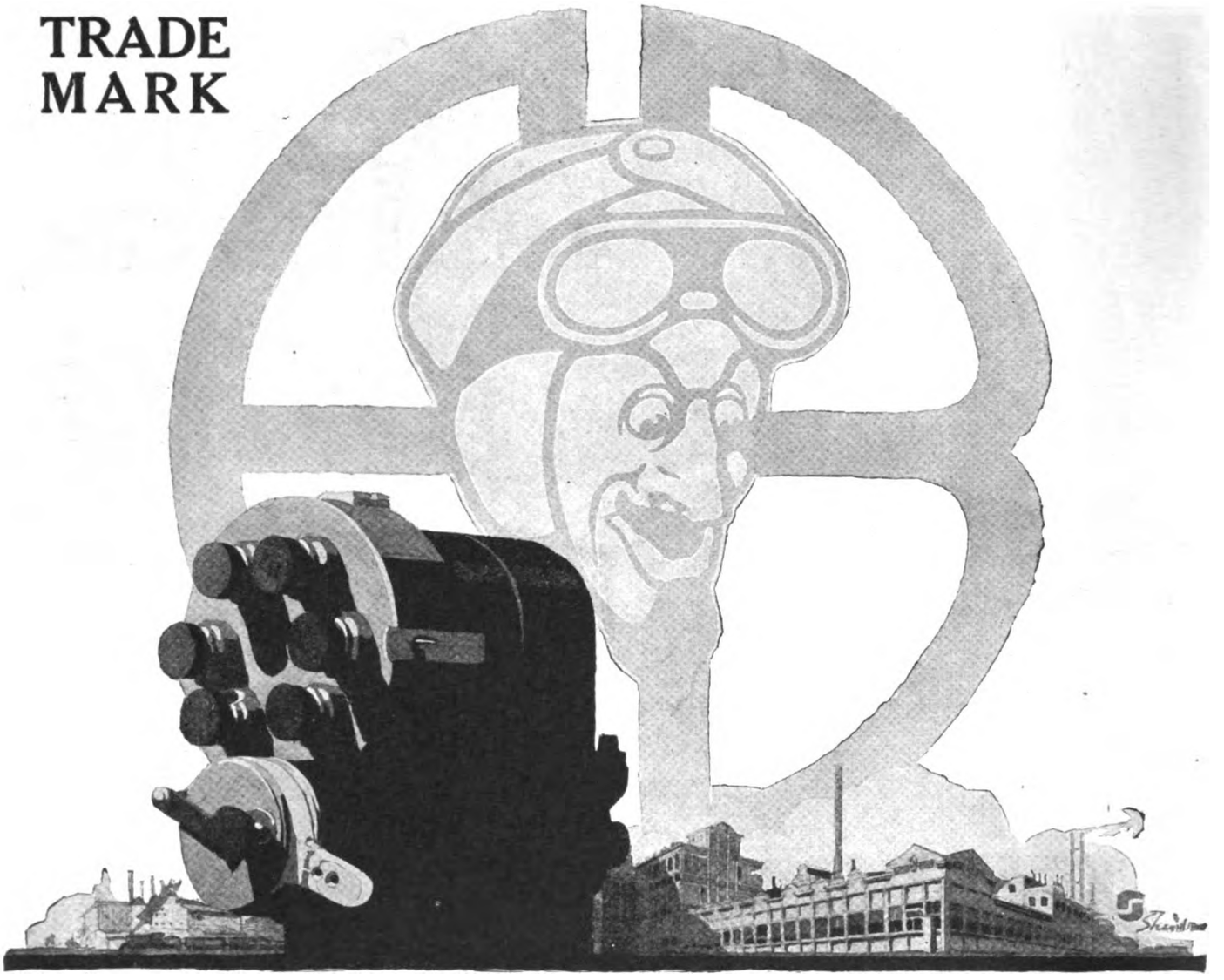
TRADE MARK



The Bosch Magneto trade mark on a magneto or a magneto part carries this definite message: "I signify the genuine—I am the guardian of quality. The product upon which I am stamped is worthy of the name 'America's Supreme Ignition System'. I assure the manufacturer, the trade and the public of supreme service and absolute satisfaction."

More than 4,322,600 readers of forty-four publications are being told the story behind the Bosch trade mark every month. This Bosch Symbol of merit has an ever increasing cash value to the manufacturer, the trade and the entire automotive world.

Be Satisfied **Specify Bosch**

300 Service Stations in 300 Centers

AMERICAN BOSCH MAGNETO CORPORATION

Main Office and Works: **Springfield, Mass.**

Branches: **New York, Chicago, Detroit, San Francisco**

BOSCH

This is the big Bosch Trade Mark page which reached more than two million readers in the September 11th issue of "The Saturday Evening Post."

Please mention "Power Wagon" when writing to advertisers.

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HIGHWAY TRAILER

EDGERTON WISCONSIN

The Largest Trailer Plant in the World

Sell the Trailer These Great Firms Choose

Many Bankers Now Stipulate the Use of Trailers in Financing Truck Sales

These are a Few Large Operators of Highway Trailers

The U. S. Army ***The U. S. Navy***

Baldwin Locomotive Works
Philadelphia
American Telephone & Telegraph Co.
The Cadillac Motor Car Co.
Detroit
The National Tea Company
"Piggly Wiggly" Chain Stores.
Headquarters, Chicago
The Timroth Motor Express Co.
Chicago
Southwestern Telephone & Telegraph Co.
St. Louis, Mo.
Towars Creamery Co.
Detroit
Chicago Telephone Company
The T. M. E. R. & L. Interurban Express Co.
Milwaukee, Minn.
The Fisher Body Co.
Detroit
The Rex Manufacturing Co.
Connersville, Ind.
The Public Service Company
Chicago
The Timken-Detroit Axle Co.
Detroit
Lindeteves-Stokvis Co.
Amsterdam, Holland
Dutch East Indies
Semarang-Soerabaya-Batavia
Tegal-Djokjakorta-Bandoeng
Medan-Makassar
T. E. M. A.
Buenos Aires-Shanghai

Highway Trailers have established a dominant place in the scheme of modern transportation.

Nothing could emphasize their importance more strongly than the recognition of their economy and efficiency by hundreds of concerns, whose business extends not only throughout America, but in every part of the world.

And now many bankers have endorsed the utility and earning power of the trailer, by stipulating the use of trailers as a condition to financing truck sales.

Every truck in your territory is a prospect for Highway Trailers. The time seems near when every truck sold, will sell one or more trailers.

The quality and construction of Highway Trailers is proved by the fact that it was the only trailer accepted without design change by the U. S. government, which operates more than $1,000,000 worth.

You can sell the advantages that made Highway Trailers the choice of all these. It is your opportunity to build a big profitable business. Write for details.

Note Price Advantage of Highway Trailers

1½ Ton $785 4 Ton $1325
2½ Ton $995 6 Ton $1695

The Timroth Motor Express Co., of Chicago Operates a Large Fleet of Highway Trailers in Connection with 150 Trucks. "Each of my trailers earns $25 a day," Says Mr. Timroth.

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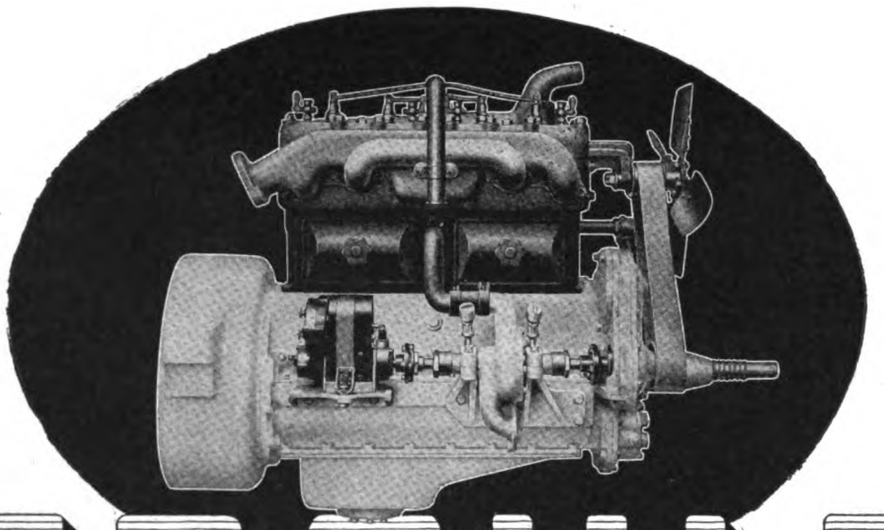
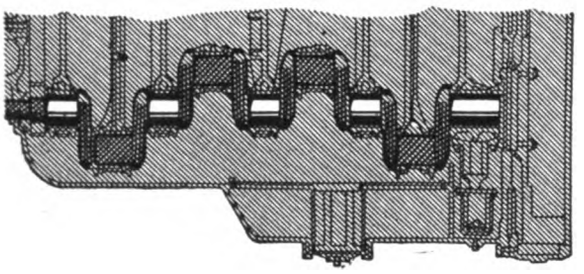


HERCULES



Maximum Strength

Each individual part of Hercules Engines is designed and built with proper distribution of correct materials for maximum strength.

And each part is designed and built to coordinate so perfectly with every other part that the completed engine developes maximum strength.

The correctness of Hercules design is emphasized by a comparison of the power developed with that of other motors of equal displacement.

Five Main Bearings—

—eliminate crank arm deflections and the excessive vibrations due to these deflections.

—reduce internal losses and increase the mechanical efficiency.

—maintain extremely low bearing pressures.

—assure almost endless life of bearings.

The Hercules Motor Mfg. Company
Canton, Ohio

Sales Offices: Detroit Chicago Buffalo
San Francisco London, England

FOR TRUCKS AND TRACTORS

Please mention "Power Wagon" when writing to advertisers.

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EFFICIENCY-RELIABILITY-DURABILITY
GARY
SIMPLICITY-TRUCKS-ECONOMY

MAKE COMPARISONS

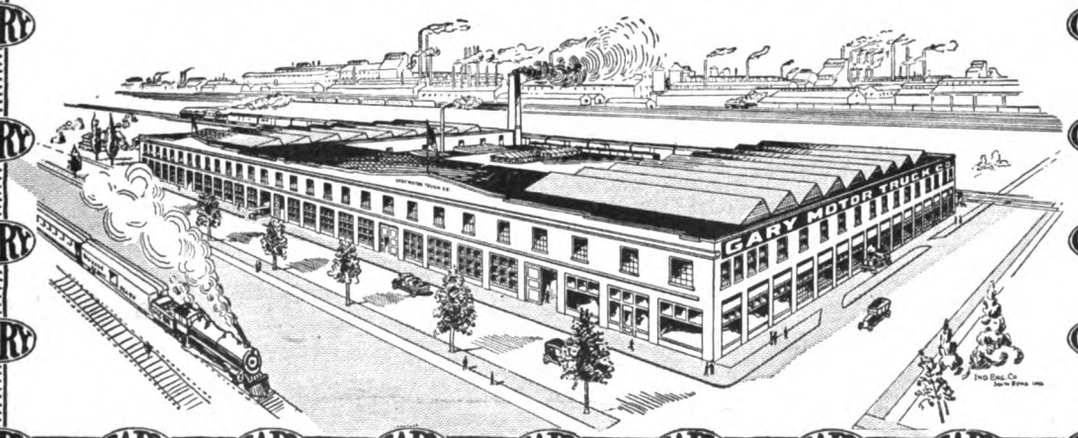
Turn over to the "Motor Truck Specifications" in Power Wagon and see for yourself how much larger and better Gary trucks are than other trucks of the same rated capacity—and after you have learned what Gary users know, please note that Gary prices are **below the average** of over forty different makes of heavy duty worm drive trucks.

We have some open territory.
We can make mmediate deliveries.
Our proposition to dealers is the most liberal to be had anywhere.

Write or wire today

The Gary Motor Truck Co., 2300-2340 Taft Street GARY, INDIANA

1, 1½, 2½, 3½ and 5 ton Special Farm Wagon, Special Motor Bus, Special Tractors



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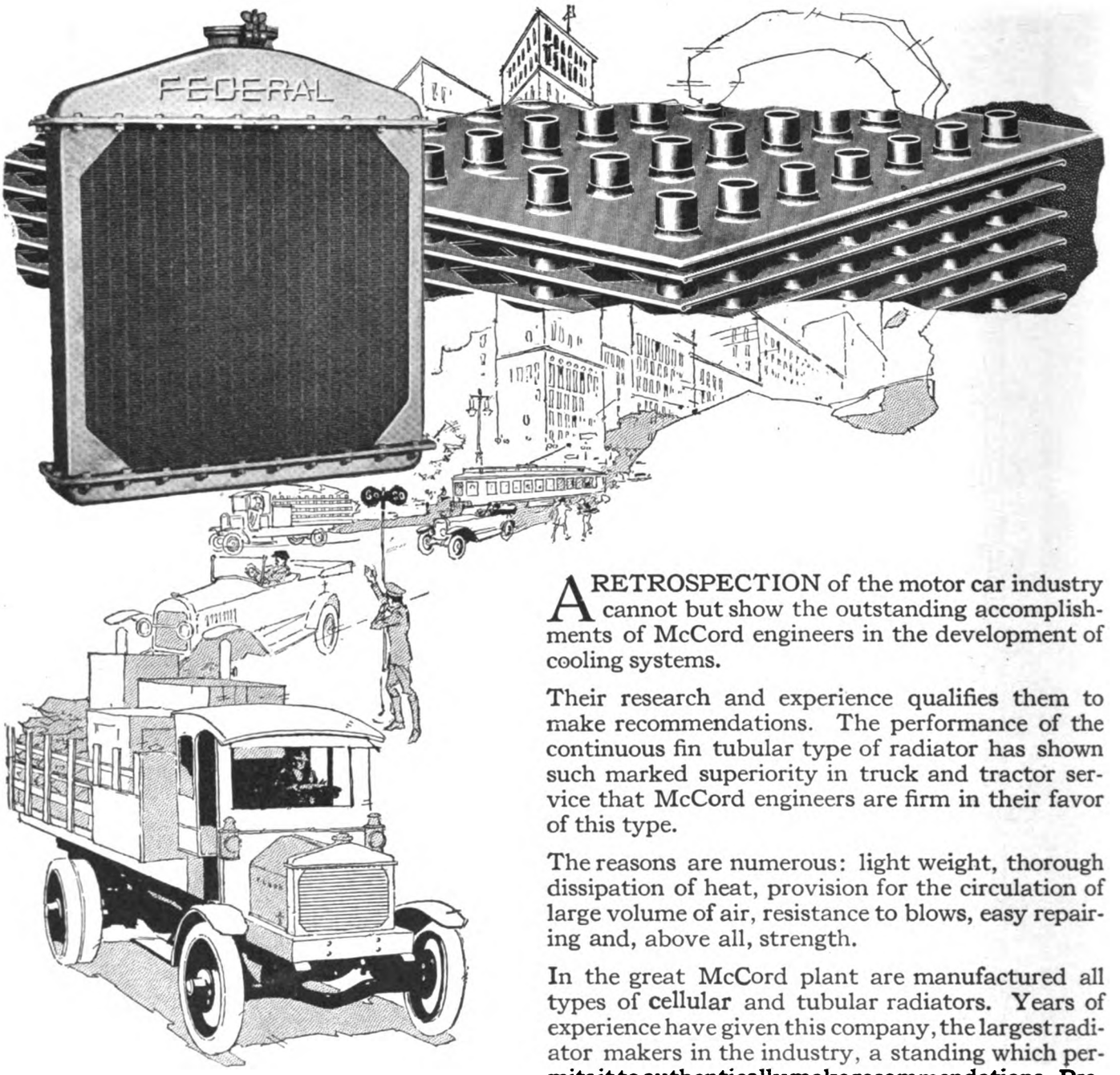
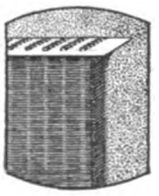


A RETROSPECTION of the motor car industry cannot but show the outstanding accomplishments of McCord engineers in the development of cooling systems.

Their research and experience qualifies them to make recommendations. The performance of the continuous fin tubular type of radiator has shown such marked superiority in truck and tractor service that McCord engineers are firm in their favor of this type.

The reasons are numerous: light weight, thorough dissipation of heat, provision for the circulation of large volume of air, resistance to blows, easy repairing and, above all, strength.

In the great McCord plant are manufactured all types of cellular and tubular radiators. Years of experience have given this company, the largest radiator makers in the industry, a standing which permits it to authentically make recommendations. **Promoting the use of the continuous fin tubular type of core is done, therefore, to insure maximum results.**



McCORD MANUFACTURING COMPANY, Inc.
Detroit, Michigan

Manufacturers of McCord Force-Feed Lubricators and McCord Gaskets

Service Stations:
New York: 1926 Broadway
Chicago: 1512 S. Michigan Ave.

McCord
RADIATORS

Digitized by Google

Wilson
dependable MOTOR TRUCKS
Time Tested Transportation
The Strongest Proof of Excellence
65,000 Miles at $3.47 Monthly Cost
In Postal Telegraph Construction Work
You Can Establish a Profitable Motor Truck Business
The Armstrong Transfer Company Uses Wilson Trucks in Boston
This Truck Has Worked Above the Clouds
Why Do Motor Truck Dealers Make Money?
"Reliability Is Unquestioned"
Inter-State Haulage Made Easy With Wilsons
"Does the Work of Five to Nine Teams"
IT is not alone for their rugged strength and their get-there-and-back ability that great corporations continuously purchase Wilson trucks.
Big business looks also to mature age—to that ripened experience which bespeaks a worthy and dependable product.
And in their purchases of Wilson trucks you will find that the United States Government, and scores of industrial concerns like Standard Oil, the United States Cartridge Company, the Coffin Packing & Provision Company, the Armstrong Transfer Company, the Postal Telegraph Company, have been influenced, to a very large degree, by the fact that Wilson trucks have now been built for eight years; and that back of all this are still seventy-nine additional years of commercial vehicle manufacture—an honorable record covering thirty-seven years in all.

A Nationally Advertised Truck

The reduced facsimile reproductions of 13 full page advertisements in the Saturday Evening Post, appearing during the last twelve months, represent but a part of the publicity behind Wilson trucks.

Every Wilson dealer benefits from this campaign of national advertising.

It is a guarantee to the buying public that here is a factory which believes in cooperating with its dealers.

Are You Selling an Unadvertised Truck?

Don't you really think the time, energy and money expended on account of an unknown product would be much more profitable when put back of a nationally advertised motor truck?

We have some valuable territory still unassigned and can make attractive dealer contracts to such men or organizations as meet our requirements.

Better get in touch with us at once

J. C. WILSON COMPANY
Detroit, Mich.

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Steel Cushioned Wheels **Universal** Mead Cushioned Wheels

HUBLESS FULL FLOATING TRUCK WHEELS

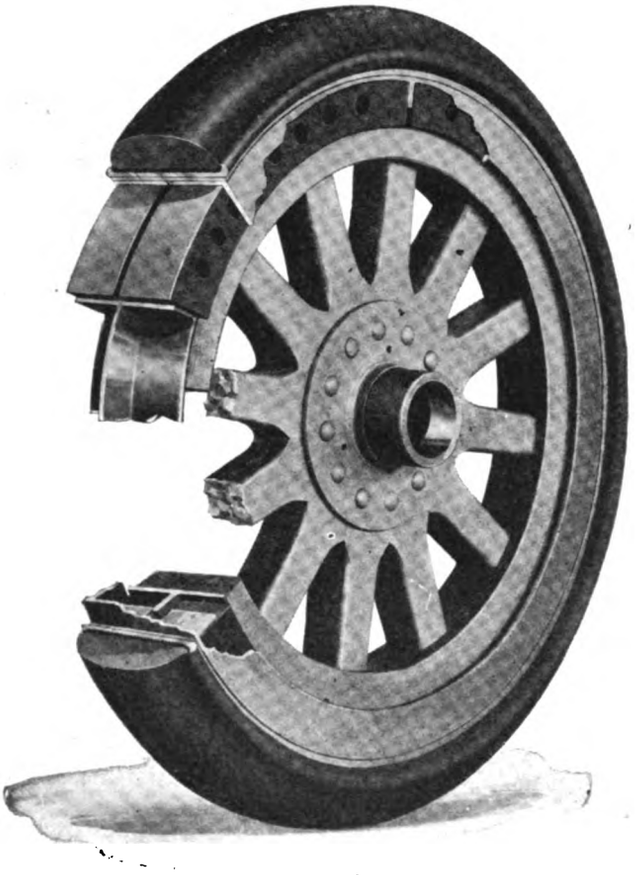
A Practical Wheel for Trucks, Tractors and Trailers

Simple in Construction

Mechanically Correct in Construction

Vibrations and Hammer Thrusts from Road Contact are Absorbed in the Wheel

The Wheel Designed with a Knowledge of Traffic Conditions



This Wheel Excels in Resiliency, Efficiency, Durability and Economy.

Reduces Gasoline Expense 25%

Reduces General Upkeep Expense More than 50%

Protects the Engine and Chassis against Crystallization

A Practical Wheel for Any Truck on Any Road with Any Load

This Wheel Meets the Growing Demand of Truck Users for Reducing Upkeep, and for Protection from Engine, Tire and Chassis Troubles.

A Wheel With Perfect Drawbar Pull

This Wheel Rides with the Resiliency of Pneumatic Tires and is not injured by Oils, Acids, Salts or Other Chemicals, because the Rubber is fully protected.

Initial Investment Compensated by Reduced Aftercost Plus Upkeep

PITTSBURGH TRUCK WHEEL CORPORATION
General Offices: 405 Fulton Building
PITTSBURGH, PA.

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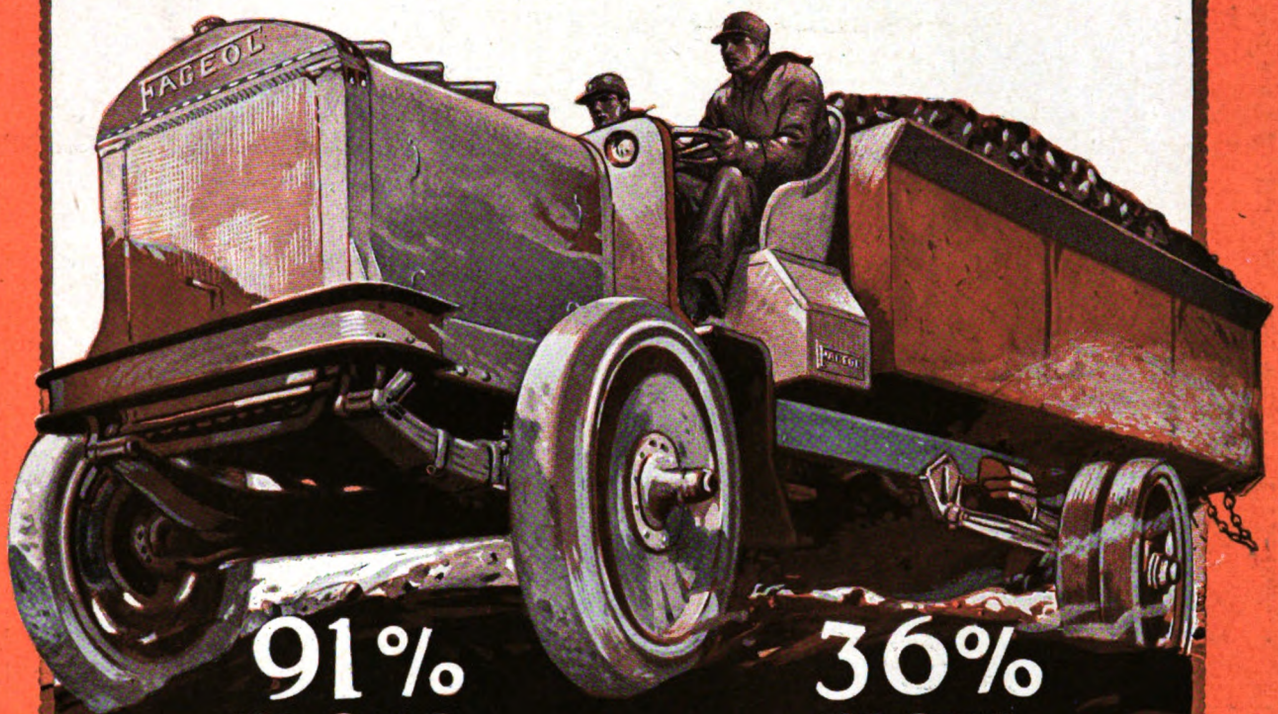
FAGEOL
COMPOUND TRUCKS



91% more pulling power {*It's in the Gear Box*} **36% more road speed**

THE motor truck of the future must have a wider range of power and speed. And this must be combined with greater economy of operation. Every truck dealer realizes this.

The Fageol—*the truck with the compound transmission* (patents pending)—actually develops 91 per cent more pulling power and 36 per cent more road speed without increasing its engine speed.

For three years this great truck has been built in Oakland, California. It is one of the three or four big leaders in the trucking field west of the Rockies. It is now also being built in Cleveland, to give truck buyers of the East and Middle West the vital advantages that have proved so successful and so popular on the Pacific Coast.

Two Models—Medium and Heavy Duty

Built by the

FAGEOL MOTORS COMPANY [OF OHIO], CLEVELAND, O.

FAGEOL MOTORS COMPANY, OAKLAND, CAL. U.S.A.

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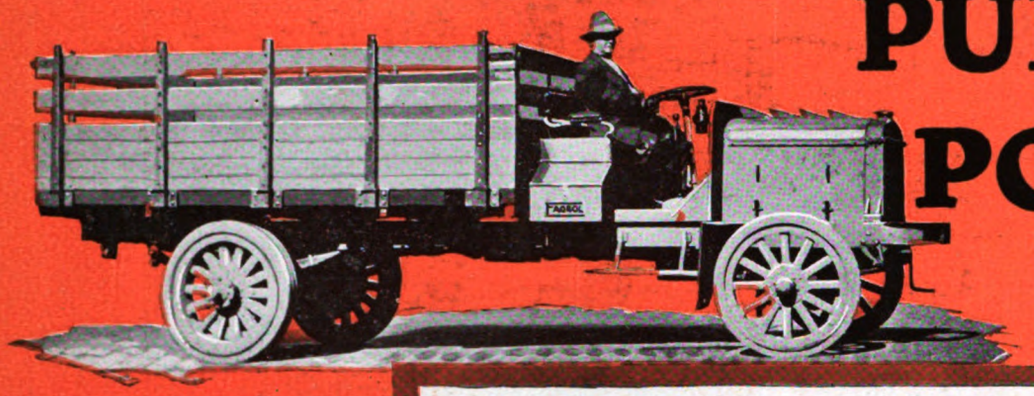
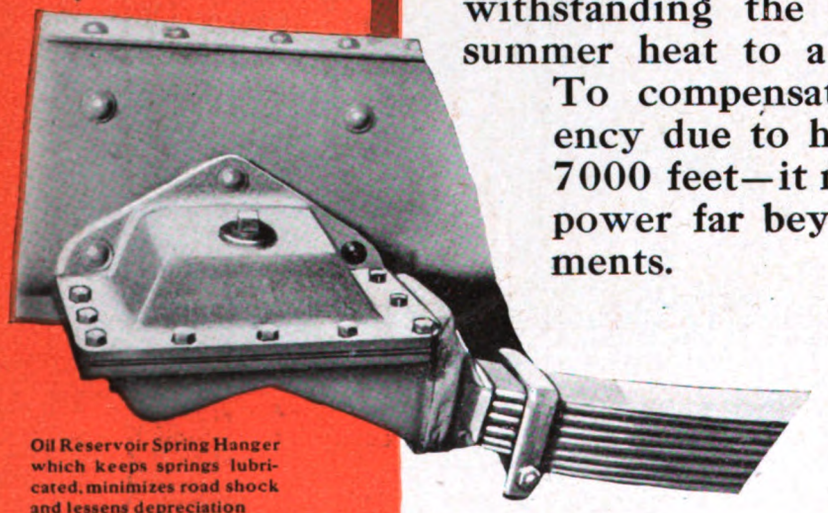
91% MORE PULLING POWER



Fageol Trucks were developed to meet the most exacting traffic conditions found in America.

On the Pacific Coast, a successful motor truck must be able to haul a full load up 25 to 30 per cent grades over all kinds of mountain roads. It must be capable of withstanding the rapid transition from summer heat to a freezing temperature. To compensate for lowered efficiency due to high altitudes—25% at 7000 feet—it must have a reserve of power far beyond sea-level requirements.

These are the conditions under which Fageol Trucks won their reputation.



Oil Reservoir Spring Hanger which keeps springs lubricated, minimizes road shock and lessens depreciation

FAGEOL

FAGEOL MOTORS COMPANY [OF OHIO],

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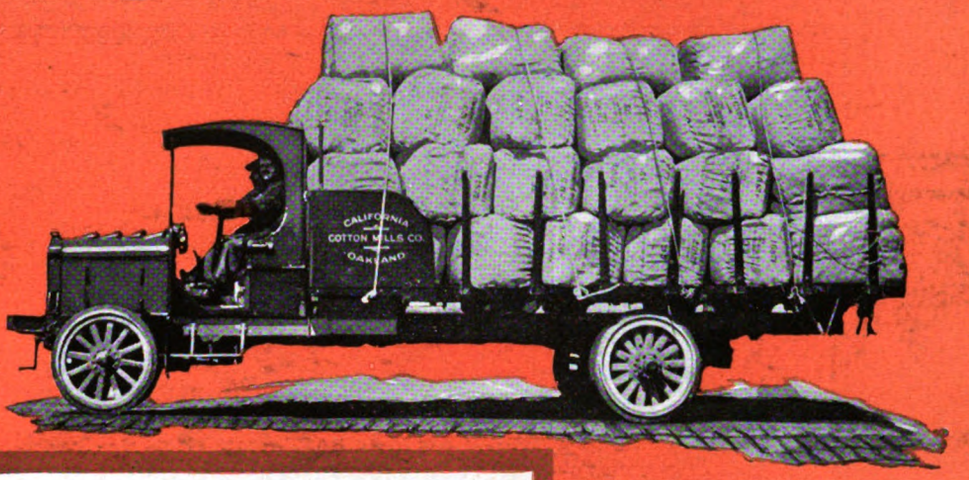
36% MORE ROAD SPEED



The Fageol *compound transmission* (patents pending)—used exclusively in Fageol Trucks—was designed to provide the extra power and speed required.

This unit has no more gears than an ordinary 4-speed transmission, yet it permits a far wider range of power and speed without in the least increasing the engine speed.

It actually gives the truck 91% more pulling power and 36% more road speed,

—and greatly decreased gasoline consumption.

Two Models—Medium and Heavy Duty.

Compound Seven-Speed Control Levers and Fageol Foot Throttle.

COMPOUND TRUCKS

CLEVELAND, OHIO

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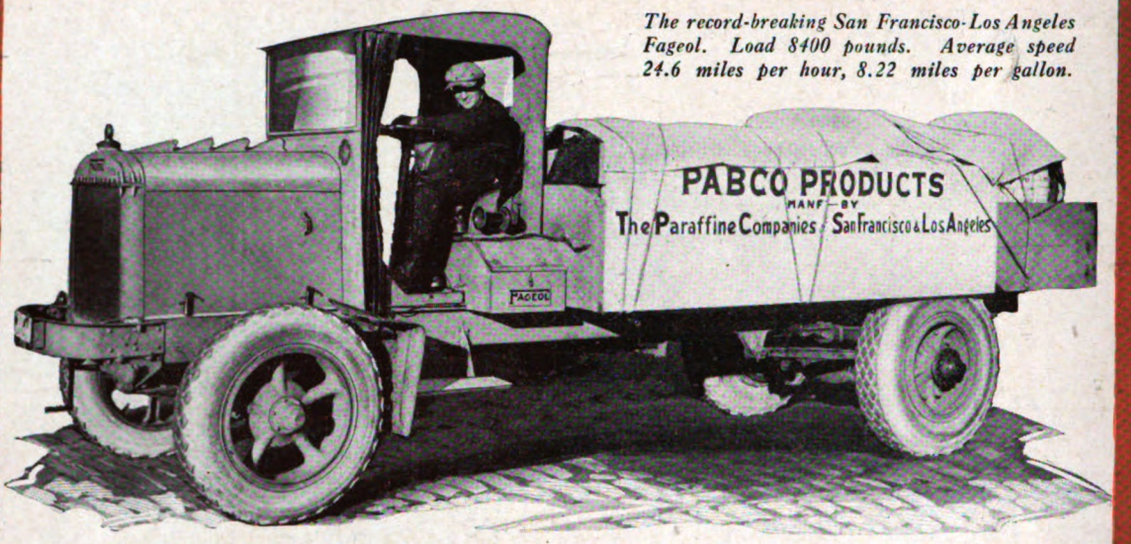

The record-breaking San Francisco-Los Angeles Fageol. Load 8400 pounds. Average speed 24.6 miles per hour, 8.22 miles per gallon.

Now Ready for Good Dealers

An unapproached range of power and speed, together with unusually low gasoline consumption, gives the Fageol tremendous selling advantages. In addition, this great truck also embodies ease of control and comfort for the driver as well as low upkeep costs for the owner.

The Fageol is built to conquer transportation difficulties. And that is exactly what it does.

It will be marketed through a limited number of high-class dealers. Your territory may still be open.

FAGEOL MOTORS COMPANY [OF OHIO], CLEVELAND, O.
FAGEOL MOTORS COMPANY. OAKLAND, CAL.

FAGEOL
COMPOUND TRUCKS

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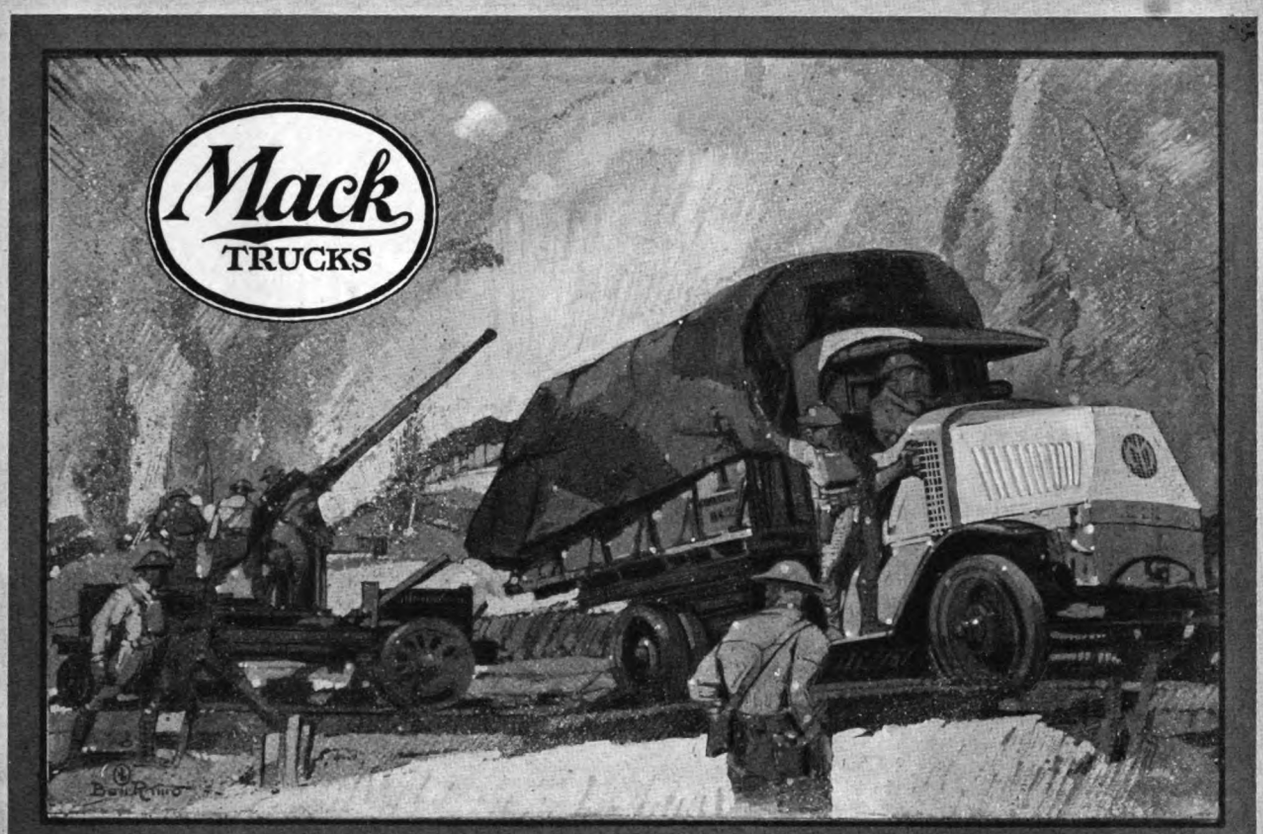

A Governmental Distinction

AT frequent intervals since the war ended, considerable publicity has been given to the government standardization of motor trucks.

We take this opportunity to point out a salient fact in this connection. Of all motor vehicles classified as standard, four types—2,3,4 and 5—are designated as the motor truck class. In the first three of these types, namely, 2, 3 and 4, several different makes of motor trucks are listed as standard government equipment in each case.

But in type 5 (Five tons and over, including special engineer trucks) the Mack is the only truck named as standard. In other words, the "Bull Dog" is the one and only truck permanently retained by the U. S. Army as standard heavy-service equipment.

The Liberty truck, which was used in the war, was solely the product of a concentrated effort toward quantity production to meet a great emergency.

These facts are more or less common knowledge today. It is not generally known, however, that shortly after the United States declared war noted government engineers conducted exhaustive motor tests which the Mack engine alone survived. The U. S. Engineers requisitioned such quantities of Mack heavy-duty chassis that our production of all light models—1½ and 2 tons—had to be suspended during the war term.

Our greatest military men state that there is no real difference between military and commercial motor transportation. In both classes of service, the best equipment is necessary to record the greatest possible ton-mileage within a given time.

INTERNATIONAL MOTOR COMPANY, NEW YORK

"PERFORMANCE COUNTS"

Digitized by Google

There's a "POWER-FUL DIFFERENCE" in MAGNETOS
ORDINARY MAGNETOS Fire Like This
Two Way Sparks of Unequal Intensity
The New SPLITDORF Aero MAGNETOS Fire Like This
Uni-Directional Sparks Always the Same
ESTABLISHED 1858
TRADE
SPLITDORF
MARK
SPLITDORF ELECTRICAL CO. Newark, N. J.
WORLD'S LARGEST MAKERS OF IGNITION EQUIPMENT

Digitized by Google

Compare This Old "Available" With the "Availables" We're Building Today

BEN BUDYCH
MEAT MARKET
1225 CORNELL STREET
CHICAGO

May 13. 1920

Available Truck Company,
North & Kilpatrick Aves.
Chicago.

MY LABOR DAY PURCHASE

Gentlemen:-

No. 363. Monday, September 2, 1913, Available Truck

When I purchased the above numbered Available Truck from you, my thoughts on that day were whether or not it would fulfill the commission delegated for it in commemoration of the time.

Since then, and up to the present time, I have had many occasions to rejoice in the judgment I displayed on that day in the purchase of this Available Truck, as it has saved many hours in time through prompt delivery, economical in operation and its unfailing duty - It being available every day with the exception of a few moments for oiling, minor repairs or adjustments.

While my truck has only had the third set of tires, though having traveled a total of 157582 miles, I attribute that to the fact that I have never taken the easier route of travel by riding the street car rails in the city.

While I originally paid $1400.00 for this truck you could not buy it today for the money, in fact, I have become attached to it, that we look upon it as a member of the family.

As a matter of fact, if I were to sell my business today, I would not sell the truck, considering it worth more than I could duplicate it for in a more modern truck, furthermore, its cost of operation is so small that I would hesitate before trading or exchanging it for any truck of present construction.

To my certain knowledge this truck has never been in your or any other shop for repairs.

I wish you every success in your business - You have built a good truck for me, and I feel that you are continuing to do so for others.

Very truly yours,

Ben Budych

7-Year-Old "Available" still in use

Available Trucks

Manufactured in
1½-Ton, 2½-Ton, 3½-Ton, 5-Ton and
7-Ton Capacities

AVAILABLE TRUCK COMPANY

North and Kilpatrick Avenues—F-1 **CHICAGO, U. S. A.**

Please mention "Power Wagon" when writing to advertisers.

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Announcing the PIERCE-ARROW Dual Valve trucks

In a full line including

a 2-ton truck
a 3½-ton truck
a 5-ton truck
and a tractor

with DOUBLE ignition and ELECTRIC lights.

They mark as notable an advance as the Worm Gear, introduced by Pierce-Arrow in 1910, which has become the dominant means of truck propulsion.

The adoption of the Dual Valve principle means greatly increased power and surprising operating economy.

Please mention "Power Wagon" when writing to advertisers.

Digitized by Google

THE GREAT EXPANSION of facilities and the efficient organization necessitated by War production developed invaluable experience enabling us to enhance the high quality which always has marked Pierce-Arrow.

THE PRESENT LINE *retains* these distinctive Pierce-Arrow characteristics—durability, long life, easy operation.

It *gains materially* in these vitally important attributes:

Pulling Power—equal to any demand

Gasoline Economy—more miles per gallon

Accessibility—for quick economical repairs

THESE ARE PRIMARY FACTORS in operation and maintenance—the true test of truck economy.

Pierce Arrow

48 of the FIRST FIFTY trucks still running after 9 years' service.

Delivers more work in a given time.

Loses less time on the job and off the job.

Costs less to operate and less to maintain.

Lasts longer, depreciates less, commands a higher resale price.

THE PIERCE-ARROW MOTOR CAR COMPANY, BUFFALO, N. Y.

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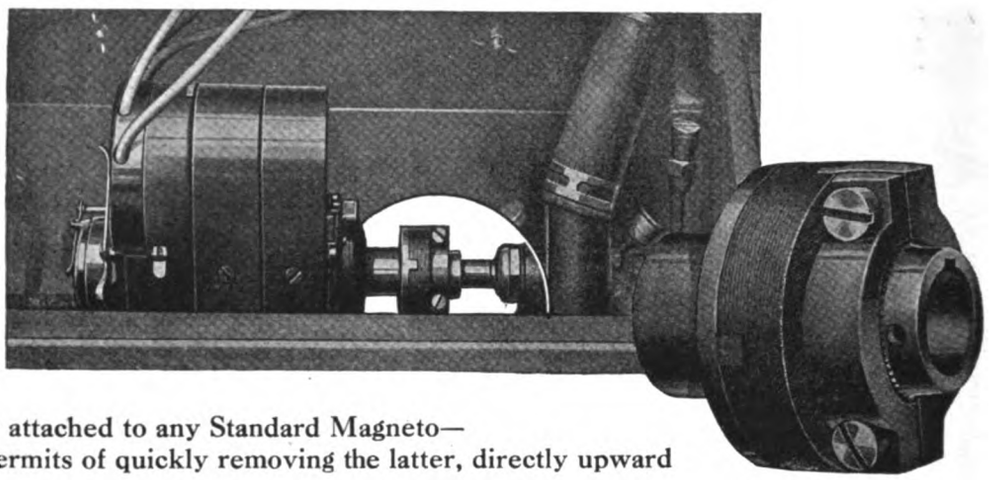
EISEMANN

ADJUSTABLE OLDHAM COUPLING



Easily attached to any Standard Magneto—
also permits of quickly removing the latter, directly upward

QUIET RUNNING—SELF-LUBRICATING

THIS new coupling incorporates all the well-known advantages of the Oldham Style Coupling without the possibility of noisy operation.

The simplified design permits of the easy adjustment of the timing of the magneto to the engine.

The magneto setting is changed by merely loosening two screws, shifting the position of the two clamps and then re-fastening the screws. Settings are possible every 6 degrees throughout a complete circle.

The drive is absolutely positive as friction is not depended upon in any form whatever.

Descriptive circular on request

EISEMANN MAGNETO CORPORATION

Manufacturers of Magnetos for Electrically Ignited Internal Combustion Engines

Plant and General Offices—32 Thirty-Third Street, BROOKLYN, N. Y.

DETROIT, MICH. **CHICAGO, ILL.**

Service Stations in Principal Automobile Centers

Digitized by Google

KISSEL

Engineering Achievements

designed, constructed and built at the Kissel factories for specific truck power and performance requirements

Surmount Transportation Obstacles

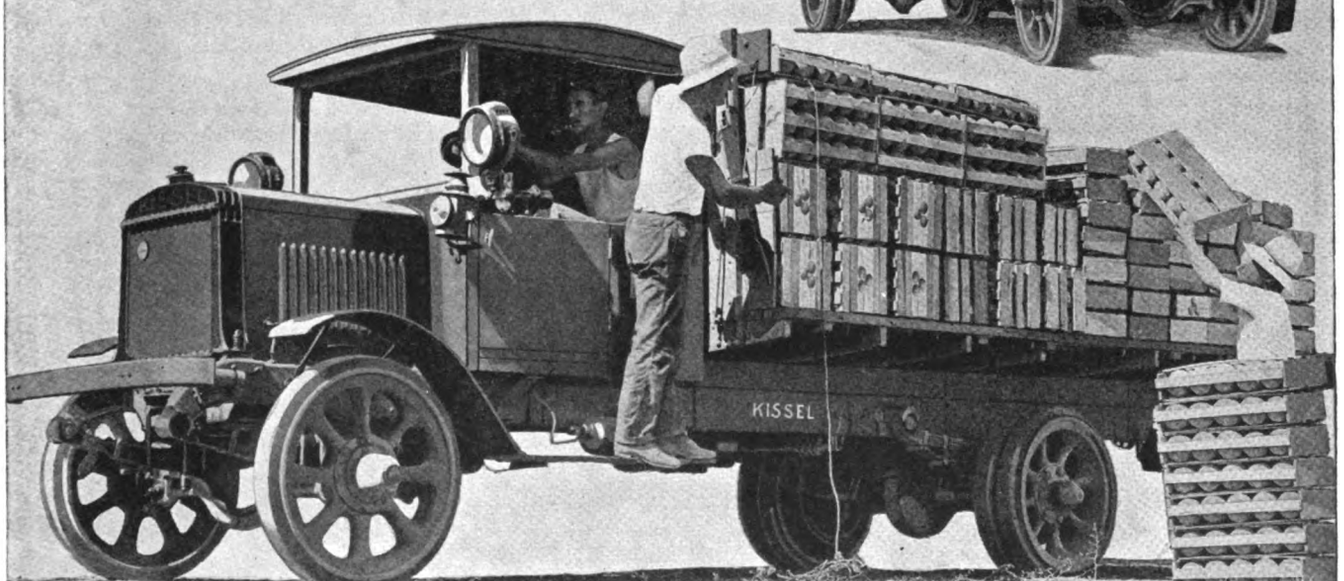
For instance — in the Imperial Valley, 119 ft. below sea level, with thermometer 130° to 135° in the sun, and roads of sandy silt, 15 Kissels, equipped with the Kissel-built motor, cooling system and other exclusive Kissel features, are working 15 to 18 hours a day.

Such dependability is due to concentrated engineering and construction efforts along specific lines, plus Kissel factory facilities, organization and 14 years' truck-building experience.

Kissel distributor transportation-engineers located in all principal cities.

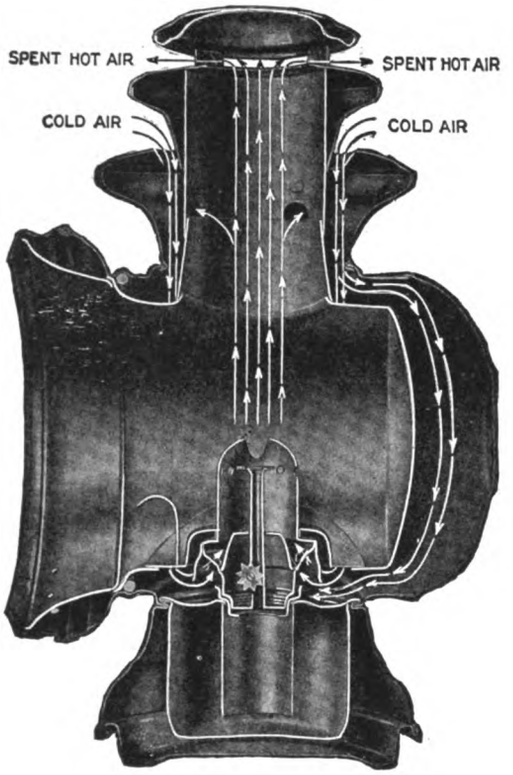
Kissel Motor Car Co., Hartford, Wis., U. S. A.

Originators of the ALL-YEAR Truck Cab.



"Loading the famous Imperial Valley cantaloupes 119 ft. below sea level with temperature 112° in the shade, 130 to 135° in the sun. During the cantaloupe season these trucks work 18 hours a day. No paved streets, but roads of silt deposits from the Colorado river."

Digitized by Google



DIETZ *"COLD BLAST"* COMBUSTION SYSTEM FOR KEROSENE MOTOR TRUCK LAMPS

DEITZ "Cold Blast" Kerosene Lamps have an inner and an outer shell. No light-destroying back draught or suction is possible, because the force of the air currents is broken and turned by baffle plates or flanges in the top of the lamp, from whence the fresh air is directed downward between the inner and outer shell and then upward into the flame. Meanwhile, all spent hot air is rising through the inner shell and out at the top.

Dietz "Cold Blast" Kerosene Lamps double or treble illuminating power and make the flame whiter. Know them by these names: "Champion" Side Lamp, "Royal" Side Lamp and "Royal" Tail Lamp.

Send for Catalog

R. E. DIETZ COMPANY
60 Laight Street New York

Founded 1840

JAMES BARNES, Sales Manager, Motor Truck Lamp Department
CARTER BUILDING, Rochester, N. Y.

DIETZ LAMPS

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General Motors Trucks

THE makers of GMC Trucks have spent years in the conscientious endeavor to make GMC Trucks the best that money can buy.

That their efforts have been fruitful is proved by the high esteem in which these trucks are held.

The GMC policy of building a quality truck has resulted in GMC Trucks holding first place in the regard of thousands of truck buyers.

Behind every factor concerned in the manufacture of GMC Trucks is plenty of capital in the form of money, factory equipment and organized mechanical knowledge.

GMC representatives are in a fortunate position in the truck business. Their present success is assured and the future shows great promise of profit.

A GMC connection is a valuable franchise from a good many standpoints.

GENERAL MOTORS TRUCK COMPANY

One of the Units of the General Motors Corporation

PONTIAC, MICH., U. S. A.

(695)

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CLIMAX Mo-lyb-den-um The Commercial Alloy

What Makes An Alloy Steel "Commercial"?

The tota cost of the finished product of the quaity required

Our book, "Molybdenum Commercial Steels" through the aid of photomicrographs, colored heat treatment charts and other data derived from the commercial production and consumption of several score thousand tons of these steels, shows why they are termed "commercial."

Copies may be obtained by addressing

Climax Molybdenum Co.
or
The American Metal Co., Ltd.
61 Broadway, New York

Molybdenum Steels

Easier to Heat Treat
Easier to Machine
Dynamically Tougher
Resist Fatigue —

PROVEN IN WAR FOR THE TASKS OF PEACE

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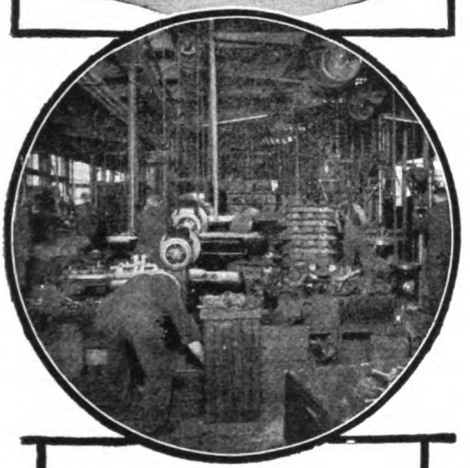
The Truck that found a Waiting Market

ALL-AMERICAN TRUCK CO. CHICAGO



Dependable production is assured both by plant and equipment. Not only is the All-American factory modern, but aside from new buildings, and new tools and equipment, the manufacturing plans and methods are the most advanced known to motor truck production.

Every possible development of progressive manufacture that makes for more trucks and better trucks has been installed.

So that we know you can always rely upon All-American production both as to quantity and uniform quality.

ALL-AMERICAN MOTOR TRUCKS

Nothing short of the strongest and most valuable dealer organization in the motor truck business will ever satisfy us.

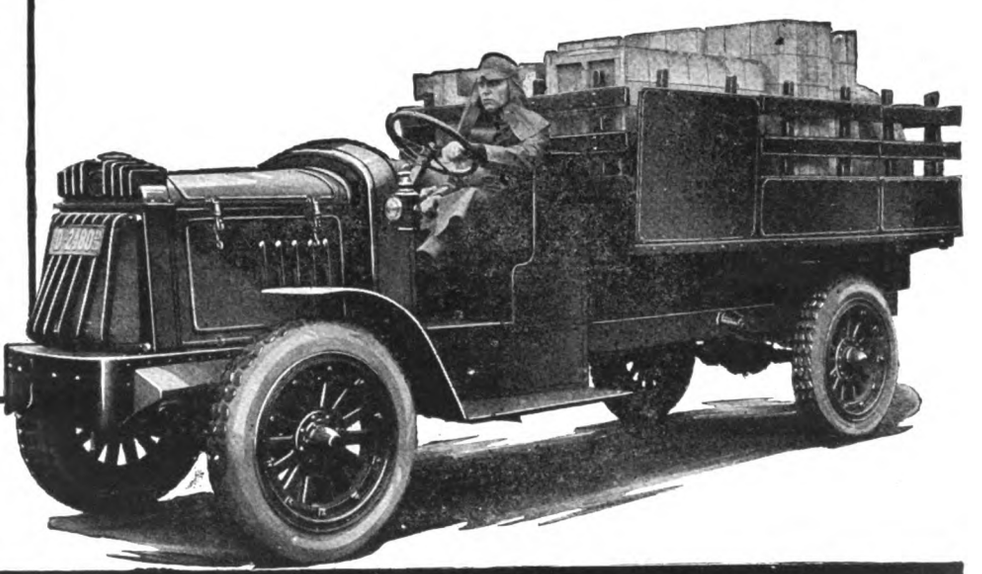
That in a word tells you whether or not you will fit into the All-American family of truck dealers and distributors.

We are building the very finest truck we know how to build and we're going to insist upon having those trucks sold properly.

There are a lot of good, successful All-American dealers on the job now. But there's room for a lot more before we are set as we want to be.

If you think we can get together—that you are equipped to handle such product as you will find out we are making—write, wire or phone us as soon as possible.

ALL-AMERICAN TRUCK COMPANY
CHICAGO ILLINOIS



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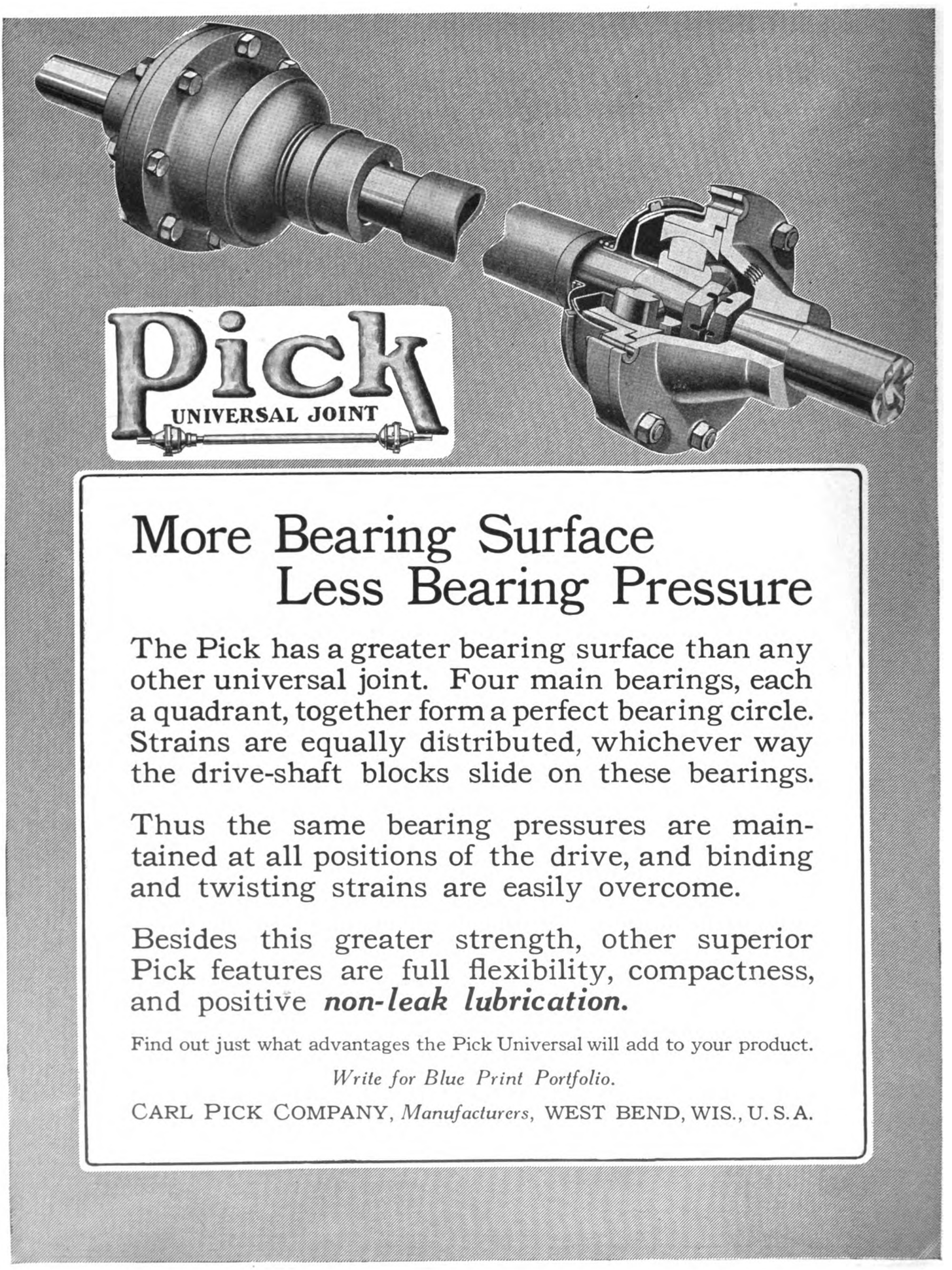

More Bearing Surface Less Bearing Pressure

The Pick has a greater bearing surface than any other universal joint. Four main bearings, each a quadrant, together form a perfect bearing circle. Strains are equally distributed, whichever way the drive-shaft blocks slide on these bearings.

Thus the same bearing pressures are maintained at all positions of the drive, and binding and twisting strains are easily overcome.

Besides this greater strength, other superior Pick features are full flexibility, compactness, and positive ***non-leak lubrication.***

Find out just what advantages the Pick Universal will add to your product.

Write for Blue Print Portfolio.

CARL PICK COMPANY, *Manufacturers*, WEST BEND, WIS., U. S. A.

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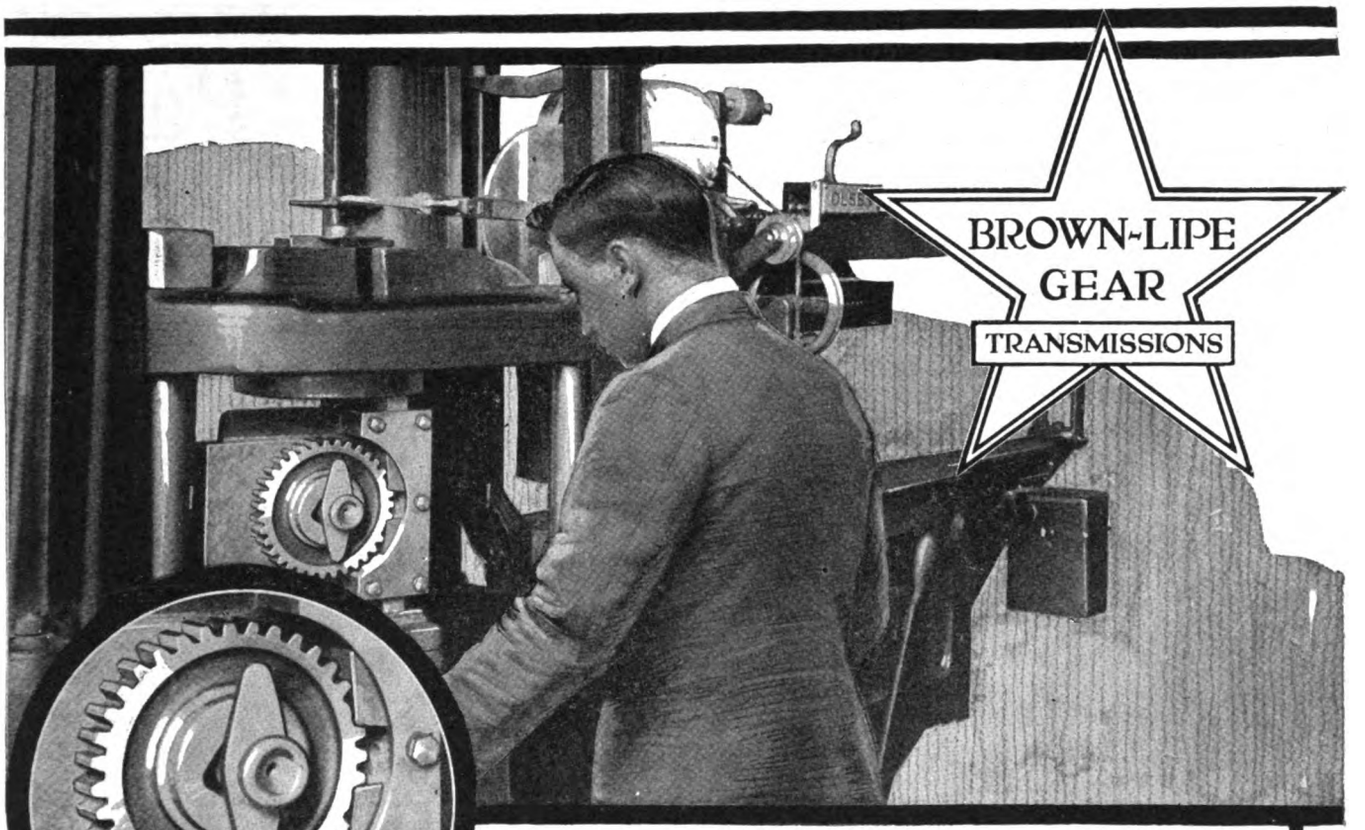

BROWN-LIPE GEARS Do Not Strip

SPECIALLY selected and treated steel and generous allowance of stock give each Brown-Lipe gear a strength several times greater than that required by its rating.

The operator in the above photograph is determining the pressure test of a gear made from a sample of steel. This machine is also used on tensile and compression tests, while another one measures resistance to impact.

Every strain that a gear meets in service is thus applied in manifold form to samples of steel. Then when the best steel for each purpose has been established, it is carefully analyzed, and each shipment of bars from the mill must show the same chemical analysis, or it is rejected.

Equal care and exact knowledge mark all manufacturing processes of Brown-Lipe Gear transmissions and Brown-Lipe-Chapin differentials. This explains why Brown-Lipe products are first choice among builders of high grade automotive vehicles.

BROWN-LIPE CHAPIN
DIFFERENTIALS

BROWN-LIPE GEAR CO.
TRANSMISSIONS

BROWN-LIPE-CHAPIN CO.
DIFFERENTIALS

Both at SYRACUSE, N. Y.

No. 15 of 40 Reasons for Superiority

Digitized by Google

More Trucks—More Pages

and the importance of variety in the advertising

News of Motor Trucks

¶ Variety in advertising as well as variety in editorial content is the spice in the life of a magazine having a universal appeal.

¶ Due to its performance and prominence in many different lines of publicity The Digest publishes the announcements of an unusual diversity of products. Hence, there appears in The Digest also the greatest variety of advertising in practically every classification.

¶ This is especially true of motor trucks. Since the beginning of truck advertising, business men have been reading a greater variety of motor truck advertising news in The Digest than in any other general publication.

¶ Figures for motor truck advertising in the first six months of this year are given on the page opposite. They show the number of manufacturers and number of pages used by each in seven leading publications.

¶ It is the buying power of The Digest's hundreds of thousands of manufacturers, wholesale and retail business men, officials in industrial and public utility corporations, contractors, builders, etc., that has held The Digest in its premier position in motor truck advertising and the records for the past six months show an even larger leadership than usual.

IMMEDIATE National Publicity

The Literary Digest

Please mention "Power Wagon" when writing to advertisers.

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Advertising of Motor Trucks and Trailers

Showing the number of pages and manufacturers in seven leading magazines

During the First Six Months of 1920

	Literary Digest	Sat. Eve. Post	Collier's	Scientific American	Leslie's	System	American
	Pages	Pages	Pages	Pages	Pages	Pages	Pages
Acme Motor Truck Co.	4	..	2½	..	..	3	2
Atterbury Motor Car Company	1	..	..	..	..	..	..
Autocar Co.	6	6	5	..	..	1	..
Bethlehem Motors Corporation	1	7	2	..	..	..	..
Clydesdale Motor Truck Co.	7	..	..	..	1⅞	..	4
Dearborn Truck Co.	1	..	..	..	..	..	..
Diamond T Motor Car Co.	6	..	..	..	..	..	..
Dodge Bros.	6	..	1	..	..	..	3
Duplex Truck Co.	..	6	..	..	..	..	..
Federal Motor Truck Co.	4	..	1	6	4	3	4
Four Wheel Drive Co.	3	7	..	..	..	..	..
Garford Motor Truck Co.	..	6	..	..	..	..	..
General Motors Truck Co.	6	..	..	6	6	6	6
Gramm-Bernstein Motor Truck Co.	6⅔	..	..	..	..	..	..
Highway Trailer	..	2	..	..	..	..	..
International Motor Co.	6	..	..	14	..	..	..
Jackson Motors Corp.	1	..	1	..	..	..	..
Kelly-Springfield Motor Truck Co.	3	7	..	..	..	..	..
Kissel Motor Car Co.	..	3	1	..	..	..	..
Martin Rocking Fifth Wheel Co.	..	..	..	..	..	⅓	..
Maxwell Motor Co., Inc.	..	..	..	..	6	..	..
Nash Motors Co.	4	..	1	..	..	..	..
Olds Motor Works	3⅓	..	6	..	..	..	5
Oneida Motor Truck Co.	3	..	..	..	..	..	..
Packard Motor Car Co.	5	..	5	6	..	..	..
Page-Detroit Motor Car Co.	6	..	..	6	..	1	..
Patriot Motors Co.	5	..	..	..	..	..	..
Pierce-Arrow Motor Car Co.	6	..	..	4	..	..	..
Reo Motor Car Co.	..	2	..	..	2	..	..
Republic Motor Truck Co.	..	12	..	..	..	..	..
Selden Motor Truck Corp.	3	..	1	4	3	..	..
Service Motor Truck Co.	6	..	..	..	4	5	..
Stewart Motor Corp.	6	14	..	..	..	..	..
Stoughton Wagon Co.	1	..	..	..	..	..	..
Traffic Motor Truck Corp.	..	7	..	..	..	..	..
Trailmobile Co.	3	..	3	..	..	..	..
Warner Mfg. Co.	1⅓	..	..	1½	..	..	..
White Co.	8	7	3	9	3	..	..
J. C. Wilson Co.	..	7	..	..	..	..	..
Number of Pages	122⅓	93	32½	56½	29⅞	19⅓	24
Number of Advertisers	29	14	13	9	8	7	6

THE RECORD OF MOTOR TRUCK ADVERTISING FOR FIVE YEARS

1915	Advertisers	1916	Advertisers	1917	Advertisers	1918	Advertisers	1919	Advertisers
The Digest	11	The Digest	21	The Digest	39	The Digest	32	The Digest	36
Collier's	7	Scientific Am	12	Sat. Eve. Post	27	Sat. Eve. Post	28	Sat. Eve. Post	29
System	7	Sat Eve. Post	12	Collier's	15	Scientific Am.	23	Leslie's	18
Rev. of Reviews	6	System	11	Scientific Am.	14	Collier's	16	Scientific Am.	16
World's Work	6	Rev. of Reviews	8	System	10	Leslie's	11	Collier's	16

IMMEDIATE National Publicity

The Literary Digest

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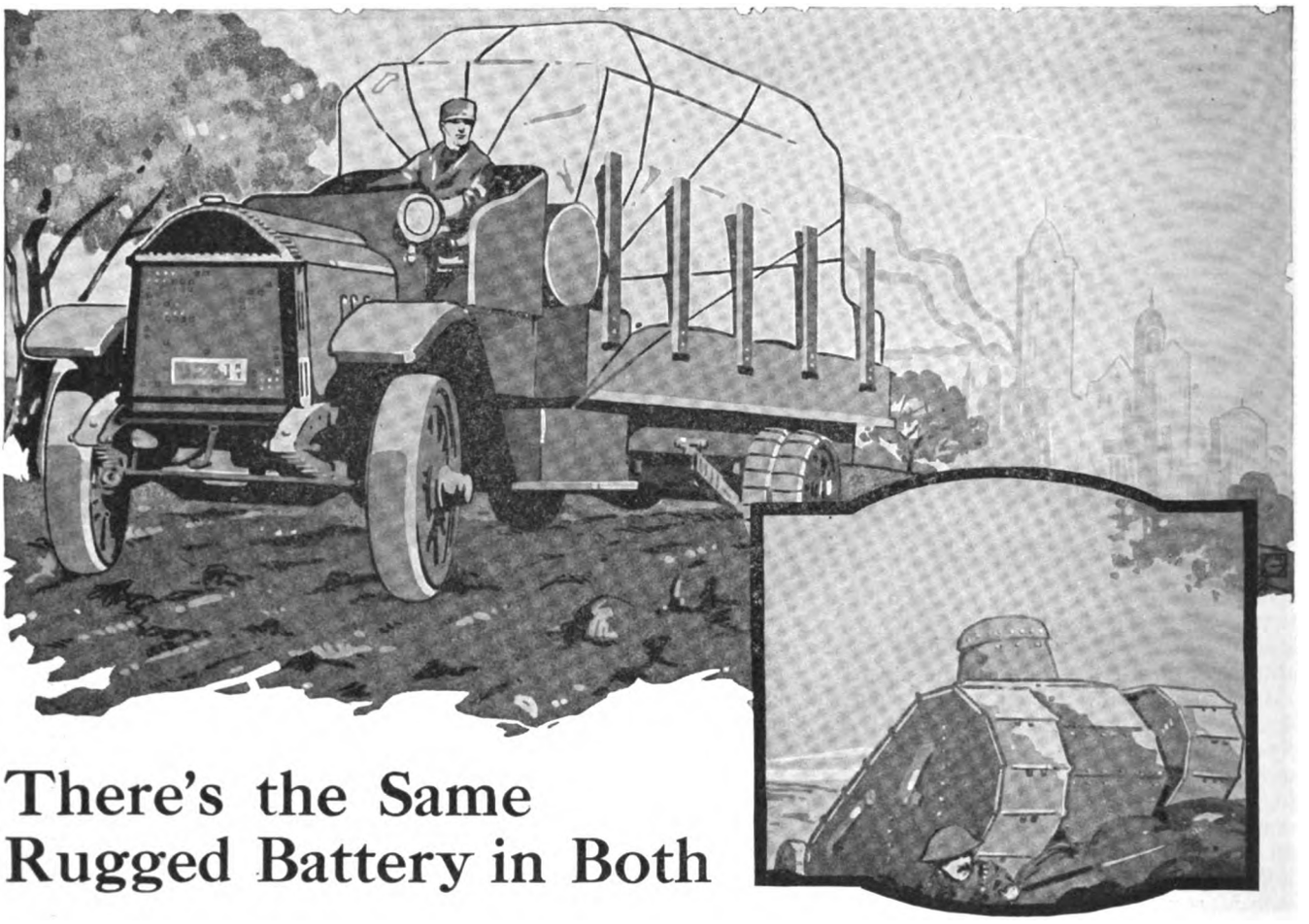

There's the Same Rugged Battery in Both

Terrific as is the vibration on a solid-tired motor truck, it can scarcely be compared to the jolting and jarring of Uncle Sam's Army Tanks in action. Yet this is the service for which

The "Exide" Truck Battery

was designed and built.

No ordinary battery can withstand the brutal treatment that these batteries are capable of enduring. Only the skill acquired by 32 years of battery building experience made their construction possible.

And now these batteries are rendering starting and lighting service on motor trucks where no other battery has ever been able to stand up before.

Write for particulars about this extraordinary battery. Learn about its extreme ruggedness, its power and its assembly in the famous "Giant" Jars.

THE ELECTRIC STORAGE BATTERY CO.

Oldest and largest manufacturers in the world of Storage Batteries for every purpose

1888 PHILADELPHIA 1920

Branches in seventeen cities

Special Canadian Representatives: Chas. E. Goad Engineering Co., Limited, Toronto and Montreal

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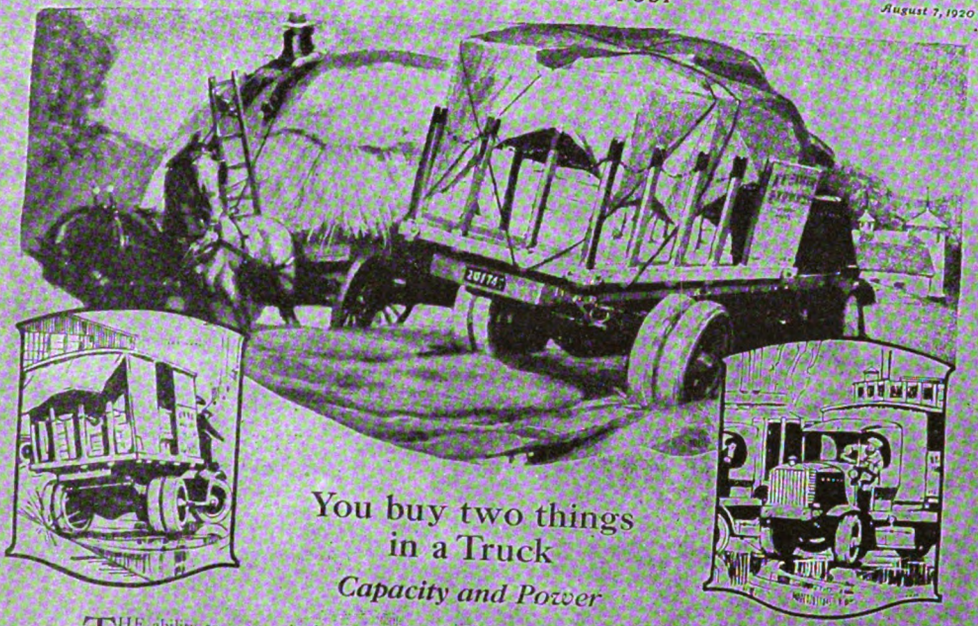
138 THE SATURDAY EVENING POST August 7, 1920



You buy two things in a Truck

Capacity and Power

THE ability to carry a load and the power to move it sums up all your needs in a truck.

Capacity—sometimes over-rated or over-loaded—means the load that the truck will carry under all conditions of road—usual and unusual.

And capacity, after all, means the axles. There is where the load comes.

Railroad operators know this, and have adopted the principle of the load-carrying revolving axle with fixed wheels to give greatest strength to withstand the tremendous side-strain encountered when taking curves at high speed.

This is the principle of Sheldon Worm Gear Axles. Technically it is known as "semi-floating." In reality it is the principle employed in carrying the Freight Tonnage of the World. When you buy a truck you are buying *capacity*—therefore you should study the axle. You can get a Sheldon-equipped truck of every size from ½ to 5 ton capacity, and for every purpose.

The booklet on Sheldon Superiorities will be sent free upon request.

SHELDON AXLE AND SPRING COMPANY, Wilkes-Barre, Pa.

Manufacturers of Sheldon Axles for Motor Trucks and Sheldon Springs for Trucks and Automobiles

Sheldon Axle FOR MOTOR TRUCKS

BUILT ON THE LOCOMOTIVE AXLE PRINCIPLE

WHILE Sheldon advertising is influencing opinion, Sheldon Axles are daily *confirming* it. It pays, then, to equip your trucks with the axle that truck buyers know and believe in.

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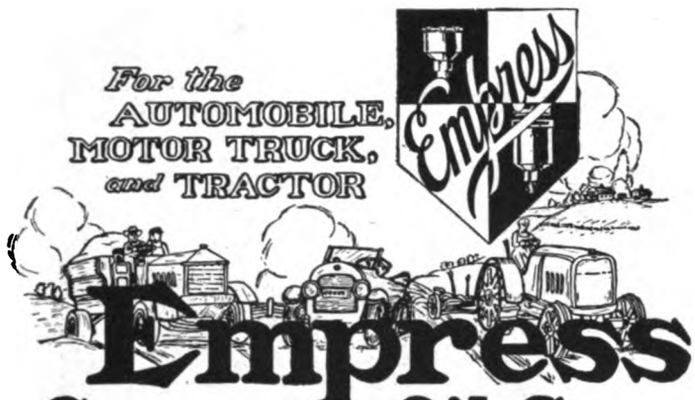


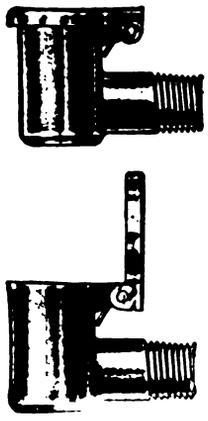
Empress
Grease and Oil Cups

Standard Lubricator Equipment

There are, by far, more Empress Lubricators in use on passenger cars, motor trucks, and tractors than all other types of grease cups, oil cups and lubricating devices combined. Their dependability and serviceability are best proven by this fact alone.

Since the birth of the motor vehicle industry, they have done their part, providing effective lubricators for every conceivable part requiring lubrication.

No. 116
Hinge Lid Elbow Oil Cup



An especially well made cup of its type well adapted to spring shackle bolt lubrication; the shell is drawn from rolled sheet metal, the hinge and threaded nipple being securely welded to it, providing a cup practically indestructible which will stand much abuse without damage. Its large, unobstructed oil passage makes it possible to pack the cup with waste if desired.

Made in three sizes: $\frac{5}{8}$", $\frac{3}{4}$" and $\frac{7}{8}$" diameter of body. Rough steel or nickel plated steel finish.

CATALOG R shows many other types equally good—WRITE FOR IT.

BOWEN PRODUCTS CORP.

Manufacturing and Sale Divisions:

AUBURN DIV., AUBURN, N. Y. MINNEAPOLIS DIV., MINNEAPOLIS, MINN.
WINKLEY DIV., DETROIT, MICH. ZERK DIV., CLEVELAND, OHIO
Canadian Factory—CANADIAN WINKLEY CO., Ltd., WINDSOR, ONT.

Branch Sales Offices:

NEW YORK, 220 BROADWAY CHICAGO, 1607 OTIS BLDG.
BOSTON, 253-255 FRANKLIN ST. CINCINNATI, 409 LYRIC BLDG.
SAN FRANCISCO, MONADNOCK BLDG.

Wolverine

The Truck of Good Service

The Wolverine was "dubbed" such by a user who bought one, then a second and now a third. He bought on **Performance.**

That the Wolverine contains units that the trade recognize as of the best is but natural. No more careful workmanship is used on any truck, nor is the average factory test and inspection as critical.

All this has produced a truck that you can sell on its strength to do the job continuously—to perform economically.

If you are looking for a truck of such nature to sell at a moderate price, wire us for territory and terms.

Of course, the "Wolverine" is equipped with a self starter and electric lights.

American Commercial Car Co.
DETROIT, MICHIGAN

PATRIOT
Motor Trucks

"HERE are some facts about the performance of our Washington Model 2½ ton Patriot Truck," wrote Hattley & Benson, Sapulpa, Okla., Jan. 27, 1920. "On Dec. 24th, 1919, we drove out of the garage 8:30 A. M. at Sapulpa and drove to Tulsa, 15 miles, loaded a 67 ft. steel derrick weighing 6500 lbs., then drove to Henryetta, a distance of 90 miles, arrived there at 5:00 P. M., making 8 hours and 30 minutes for the trip. Used 17 gallons of gas. The trip could not have been made as easy with any other make of truck that we see operating in this section of the country."

PATRIOT MOTORS COMPANY
Manufacturers
1419 P Street Lincoln, Nebraska

Revere Model	Lincoln Model	Washington Model
1500 to 2500 lbs. Capacity	3000 to 5000 lbs. Capacity	5000 to 7500 lbs. Capacity

Please mention "Power Wagon" when writing to advertisers.

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"The derrick broke, dropping the steel girder on the Warner Trailer"

WARNER MANUFACTURING CO.
Beloit, Wisconsin February 9, 1920

Gentlemen:-

On February 7th, 1920, your representative furnished us a W-30 Warner Trailer 5½-ton capacity to be demonstrated to us for the purpose of convincing our firm that a Warner Trailer would solve a number of hauling problems.

Your 5½-ton pipe trailer coupled to a 4-wheel drive truck carrying a steel girder which was 42'6" long, weighing 24,200 lbs., to the new Federal Reserve Bank of Dallas, was being raised off the truck and trailer by a big steel derrick and while the girder was suspended in the air one and one-half feet above the truck and trailer, the derrick broke, dropping this girder on the Warner Trailer which equaled a dropping weight, of that distance, around 48,400 lbs. Mr. W. M. Boatman, driver of the truck states after the accident happened, that there was absolutely no damage done to the truck or trailer in any way and we wish to tell you that this certainly convinces our firm that the stability of the Warner Trailer is beyond our expectation.

It took exactly three quarters of an hour for loading and delivering this girder.

Yours very truly,

MOSHER MANUFACTURING CO.

FH-VC per Ford Hicks

The above photograph illustrates an incident which is perhaps the most severe test to which any trailer has been put. The Warner Trailer sustained the shock of the steel girder falling on it, without being broken. This represented a dropping weight of *48,400 pounds.*

Read the accompanying letter and if you have a hauling problem let us show you how to cut your expense in half. There is a WARNER TRAILER for every purpose.

THE WARNER MANUFACTURING CO.
26 Main Street, Beloit, Wisconsin

WARNER
HEAVY DUTY
TRUCK TRAILERS
TWO AND FOUR WHEEL TYPES

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LEE TRAILERS

Make Motor Trucks Pay

If one of your customers asks your opinion about trailers, are you prepared to give him a good trailer talk?

No matter whether he will ever be a truck prospect again, you owe it to yourself to sell him a trailer if you can.

Why not be something more than a truck dealer? Be a transportation engineer and sell trailers incidentally.

Many truck dealers early realized the advantage of selling trailers. Their truck sales have increased.

A wise dealer sells trucks and trailers, preferably *LEE* trailers.

By doing so he makes two blades of grass grow where one grew before.

Send for Lee Line data sheets.

LEE LOADER & BODY CO.

Builders of Automotive Auxiliary Equipment

2337 So. La Salle St. Chicago

Saving Gasoline —and Dollars.

Proper protection against evaporation will save from 5% to 20% of gasoline in storage. A necessary economy today.

Dust and dirt in carelessly stored fuel will cause motor and repair bills.

The BOWSER underground storage tank and measuring pump eliminates evaporation, prevents the introduction of foreign matter and insures absolute accuracy in measuring the quantity of gasoline bought, sold or used. Gasoline saving is dollar saving.

There is a BOWSER installation suited to your needs that will give you 100% satisfaction. Ask us for particulars.

S. F. Bowser & Company, Inc.

Fort Wayne, Indiana, U. S. A.

S. F. Bowser Co., Ltd. TORONTO

S. F. Bowser & Co. of Texas DALLAS

Branch Offices in Principal Cities of the World

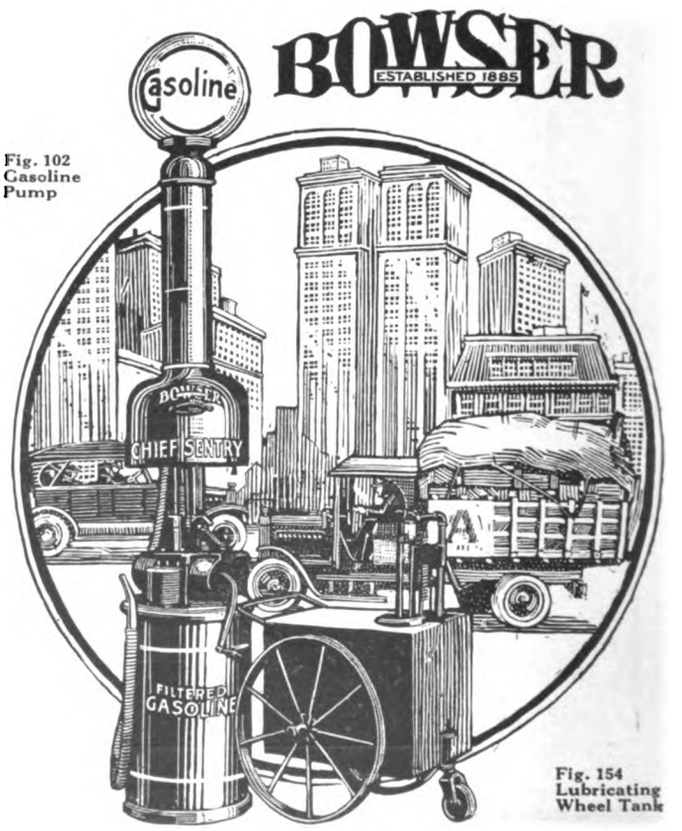

Fig. 102 Gasoline Pump

Fig. 154 Lubricating Wheel Tank

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STOUGHTON

Oversize TRUCKS

YOU are interested in the *after-sale* service factor. Stoughton reduces this to the minimum.

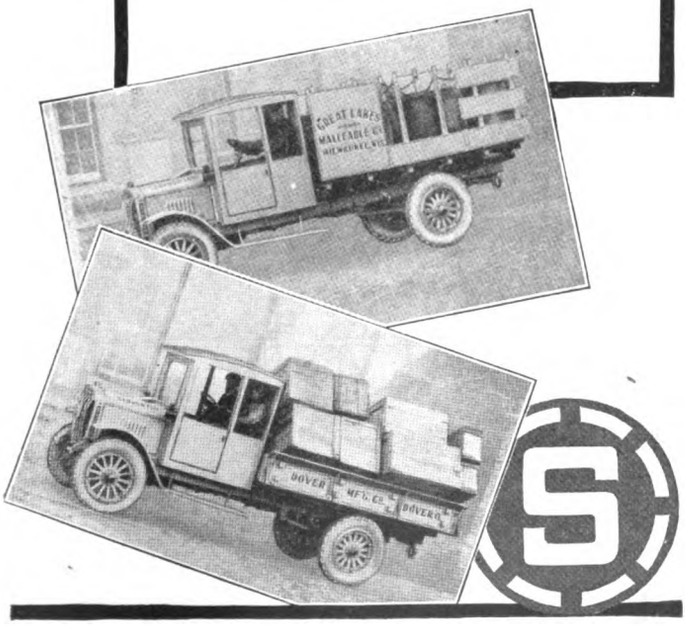
Every wearing part of Stoughton Oversize Trucks is oversize in wearing strength.

They stay sold.

Built in 1½, 2 and 3 ton capacity.

Write for our dealer proposition.

The Stoughton Wagon Co.
Stoughton, Wisconsin



"JASCO"
SAFETY FIRST
TANK

"JASCO"
SAFETY FIRST
TANKS

A leaky tank is worse than useless—it's dangerous! Day after day it **costs the motorist money** in wasted fuel—and day after day it's inviting an explosion of fire.

Made of the finest seamless drawn steel — tested and proved — the **"Jasco"** Tank will not leak, no matter how rough the service.

When you see a **"Jasco"** equipped car you'll know that the manufacturer believes in giving his customers the best. Send for booklet and detailed information.

We are prepared to handle contracts for deep drawn steel work. Send specifications.

Janney, Steinmetz & Company
Main Office: Philadelphia
New York Office: Hudson Terminal Bldg.

Please mention "Power Wagon" when writing to advertisers.

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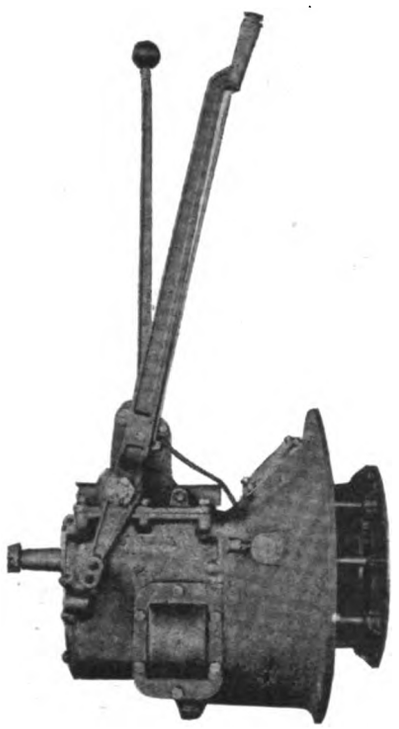


FULLER TRANSMISSIONS

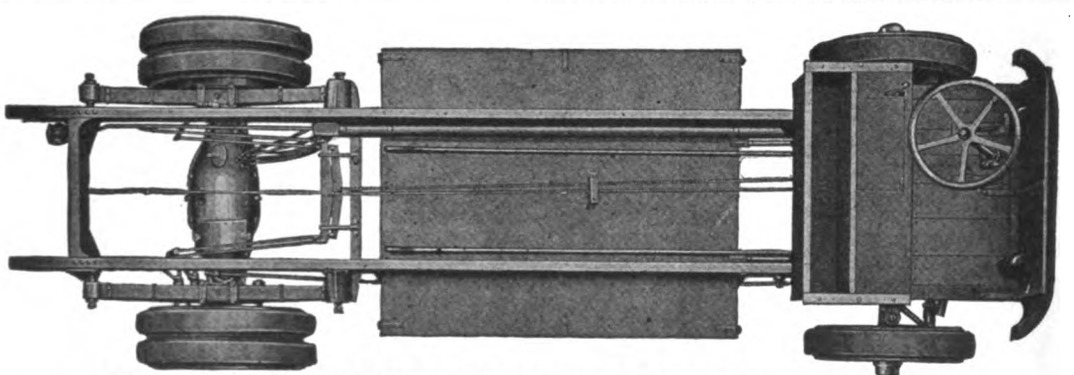
The steady growth of Fuller & Sons Mfg. Co. has proven that there is a great demand for the highest grade transmissions.

Manufacturers of transmissions, clutches and controls exclusively.

FULLER & SONS MFG. CO.
Kalamazoo, Mich.

Detroit Office, Kresge Bldg.
New York Office, American Circle Bldg.
San Francisco Office, Rialto Bldg.

WALKER ELECTRIC TRUCKS



THE WALKER IMPROVED CHASSIS

THE UTMOST IN *SIMPLICITY*—ONE THOUSAND FEWER PARTS THAN ANY GASOLINE CHASSIS
WALKER ELECTRIC CHASSIS ARE OPERATING *PROFITABLY* IN ALL INDUSTRIES.

ASK ANY WALKER USER, BRANCH OR DEALER

WALKER VEHICLE COMPANY
America's Leading Manufacturer of Electric Trucks and Tractors
NEW YORK CHICAGO BOSTON

LOWEST-TRUCKING-COST

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From Upton, U.S.N.—

This letter in part from Edgar W. Upton, President of the Southeastern Motor Sales Corporation, Distributor for Rainier Worm Drive Trucks in Florida, Alabama and Tennessee, to a prospective dealer, expresses the sentiment of our entire selling organization. Mr. Upton was a commissioned officer in the U. S. Naval service from the start of America's participation in the war.

"WE took over the Rainier line because of the ollowing reasons:—

1. The experience of the officers of this corporation (while in the service of the government during the war) with trucks and vehicles o every possible descr ption gave us an excellent opportunity to judge o the relative merits of the different types, and for an all around, every day, all day and all night per ormance we found no other vehicle so nearly 100 per cent efficient as Rainier trucks. They were always ready to run.

2. This corporation realized before it started business that i it wanted to become successful and remain in business, it could not afford to deal in products whose value was not real, and behind wh ch was a manufacturer who might at any time become an "also-ran." The Rainier was one of the first to live; it has today every appearance of being one of the last to die.

3. The Rainier manufacturers maintain an attitude of constant helpfulness, and sincere interest in their representatives, and there ore the relationship between the dealer and the manufacturer is most cordial and agreeable.

"Southeastern Motor Sales Corporation, Atlanta, Ga. Edgar W. Upton, President."

Good territory is still open to responsible dealers who can swing the Rainier Agency. Contract is liberal—profits good. Write today for details.

RAINIER MOTOR CORPORATION

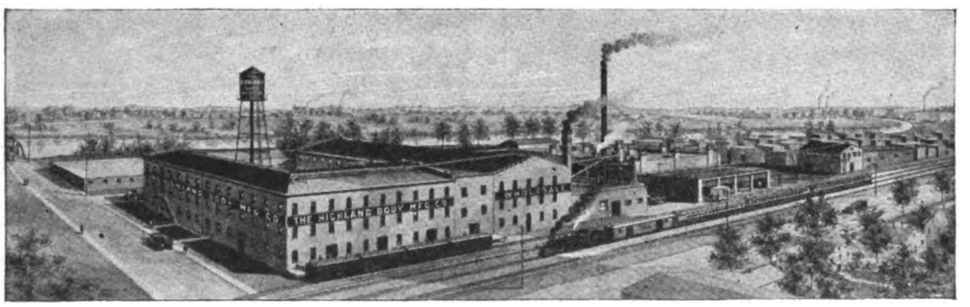
Salesrooms 225-227 West 58th Street
NEW YORK CITY
Factory: Flushing, Long Island, N. Y.

Rainier

Trade Mark Registered

WORM DRIVE TRUCKS

HIGHLAND STANDARD BODIES AND CABS



THE HIGHLAND BODY MFG., CO.

CINCINNATI OHIO

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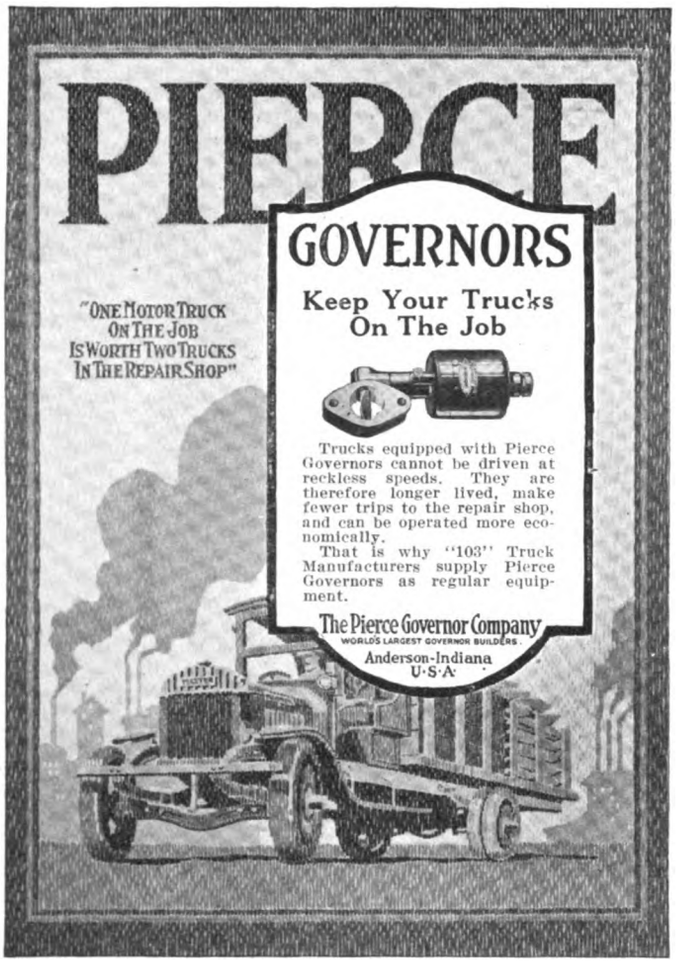

PIERCE
GOVERNORS
Keep Your Trucks On The Job
"ONE MOTOR TRUCK ON THE JOB IS WORTH TWO TRUCKS IN THE REPAIR SHOP"
Trucks equipped with Pierce Governors cannot be driven at reckless speeds. They are therefore longer lived, make fewer trips to the repair shop, and can be operated more economically.
That is why "103" Truck Manufacturers supply Pierce Governors as regular equipment.
The Pierce Governor Company
WORLD'S LARGEST GOVERNOR BUILDERS
Anderson-Indiana
U·S·A.

WOOD DETROIT

HYDRAULIC HOISTS
AND
Steel Dumping Bodies

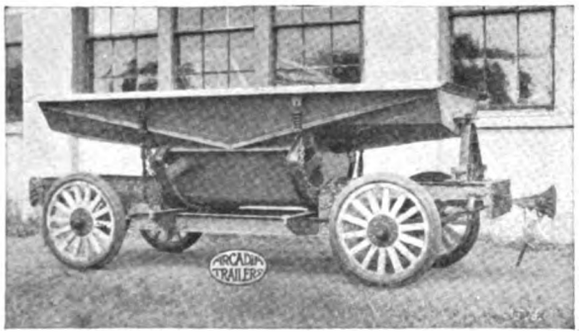
manufactured by

Wood Hydraulic Hoist & Body Company

Main Factory
1026 Bellevue Avenue
Detroit, Michigan

Branches

New York	Chicago	San Francisco
721 E. 135th St.	2911 Indiana Ave.	441 Folsom St.



CLEAN YOUR CITY
WITH
ARCADIA TRAILERS

Write for Special Circulars

WE BUILD

A Trailer for Every Trade

One to Six Tons Capacity

Trailerize Your Trucks With Arcadia Trailers

Write for Trailer Information

Arcadia Trailer Corporation
23 Murray Street
Newark, New York State

ATLAS WORM-DRIVE ATLAS "MERCHANTS' DISPATCH"

The three vital links of the truck chain

Atlas Motor Maximum power at the speed you drive—22 miles per gallon of low grade fuel (unloaded).

Atlas Transmission A 100% perfect job—we have never had to replace a single broken part.

Atlas Worm-Drive Rear Axle Every worm-drive advantage, without the excessive weight — readily accessible — foolproof in adjustment because of the three point bearing.

Individualized Body Equipment for Every Business

ATLAS TRUCK CORPORATION
YORK, PENNSYLVANIA

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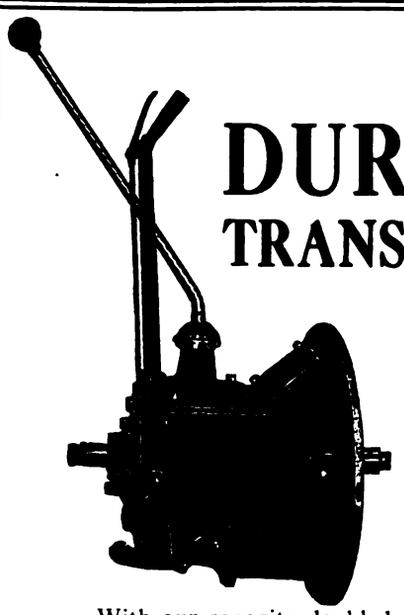

DURSTON TRANSMISSIONS

With our capacity doubled during the past few months, we are now in large production on transmissions suitable for trucks up to one-ton capacity or speed wagons.

Our present designs and production methods are the result of years of development. We are in a position to deliver transmissions that are RIGHT in every particular. Your inquiries are solicited.

DURSTON GEAR CORPORATION
SYRACUSE, N. Y.

Commerce TRUCKS

There isn't a franchise on the market today that is more fair and liberal to the dealer.

There isn't a truck in the field today that offers greater possibilities than the Commerce.

There isn't another truck built that has as many nationally advertised and favorably known standard units as the Commerce in its construction.

Everything is in its favor—demand, capacity, price, its reputation and stability of the manufacturer and money-making dealers back of it.

The Commerce Motor Car Company
10th Year Manufacturers of Motor Trucks
DETROIT, MICHIGAN

United States Motor Trucks
FLOATING POWER PLANT

As Good As The Name

Seven models

Five worm-drive

Two with Clark axles

1½ to 6 tons capacity

THE UNITED STATES MOTOR TRUCK CO.
Incorporated
Cincinnati Ohio

THREE B
BBB
BLOOD BROTHERS MODEL B
UNIVERSAL JOINTS

The Creation in Universal Joint Construction

Model B Universal Joints—"Silent Partners" in maximum motor power.

Oil is force fed to Over-size Bearings in each Model B by centrifugal action, insuring positive lubrication and durable performance. Transmission oil lubricates entire joint through a single opening.

Brute Strength is built into every Model B Joint by constructing them from one-piece drop forged yokes.

A request brings full details

Blood Bros. Machine Co.

Pioneer Builders of Universal Joints
ALLEGAN F. Somers Peterson Co. **MICHIGAN**
San Francisco, California—Western Representative

Please mention "Power Wagon" when writing to advertisers.

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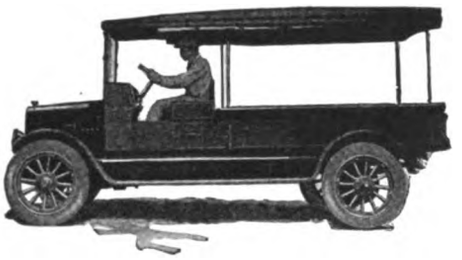
WATSON
MOTOR TRUCKS

¾-1 Ton 3½ Ton

Road Tractor *Trailers*

WATSON HAULAGE SYSTEMS

Watson Products Corporation
Main Office and Factory
Canastota, N. Y.

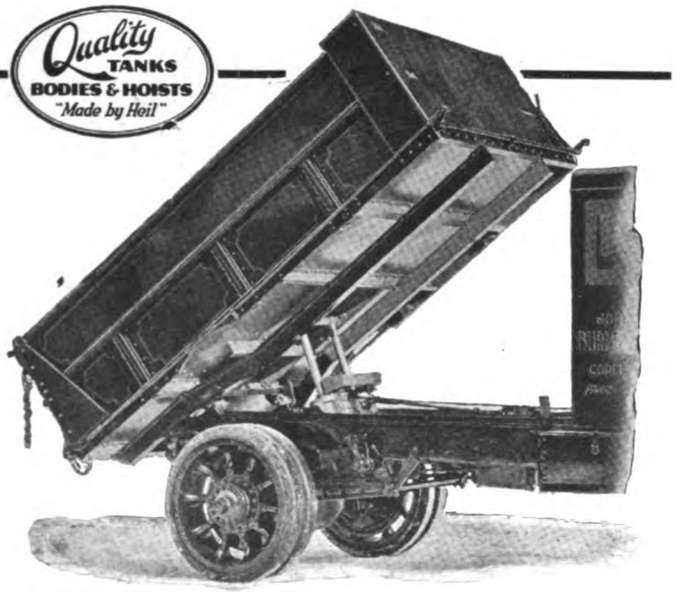


FOR giving maximum mileage and the greatest measure of protection to loaded trucks, Fisk Truck Tires are unsurpassed.

They save money for you.

FISK
TRUCK TIRES

Quality TANKS BODIES & HOISTS "Made by Heil"

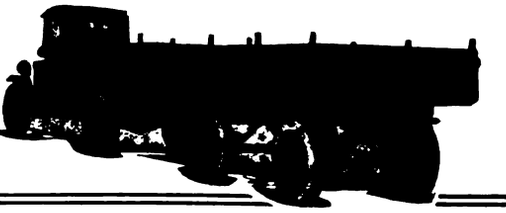


COMBINATION BODIES AND HYDRO HOISTS FOR VARIED HAULING NEEDS.

The quick adaptability of this equipment to every hauling need has caused its widespread use. Bodies are tapered, furnished with removable sides and double acting tail gate. The Hydro Hoist makes it possible to dump a load on a side grade. This is just one of the many superior features of Hydro Dumping Equipment discussed in Circular 113. **Write for it today.**

THE HEIL CO.

1140 Montana Avenue Milwaukee, Wisconsin.



E. & W. MILWAUKEE

Get the Particulars about this Particular Trailer

Write right away for illustrated details of the E&W TRAILER, the reputation-making trailer, the non-swaying, non-shaking, RADIUS ROD, true track TRAILER. Get your inquiry in the mail now.

E. & W. Manufacturing Co.
MILWAUKEE, U. S. A.

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THIS tag is the sign of the "Tenth Year Federal." It is attached to every Federal truck purchased this year and is significant of the experience and responsibility of a company that, in the past ten years, has produced more than 50,000,000 dollars worth of successful motor trucks.

FEDERAL MOTOR TRUCK CO.
DETROIT, MICHIGAN

Victor

1½ and 2½ tons

The Victor worm drive motor truck is designed to stand rough usage and to give long and continuous service. That it is doing this is evidenced by repeat orders and its large number of satisfied users.

Victor dealers have the satisfaction of knowing that the Victor will make good on every claim that is made for it.

Your territory may still be open.

Write for particulars.

Victor Truck Company
St. Joseph Michigan

GOODYEAR
CORD TIRES
SAVE DRIVERS, LOADS, TRUCKS AND ROADS

A Grip that Never Slips

Applied in Two Minutes

With transportation tie-ups everywhere, shippers must get the full use from their trucks. Costly delays on the road must be eliminated.

There is a sure and inexpensive way to keep trucks operating on schedule in any kind of weather and over the worst roads. It is Giant Grip Traction Equipment for Motor Trucks.

Mud, soft sand, snow and ice can stall the most powerful trucks if efficient traction is not provided. But with Giant Grips mud-hole lay-ups and time out for bad roads can be ended.

Clamps are permanently attached to the wheels and chains kept in tool box until needed. At a bad stretch of road these cross-chains are quickly hooked on and the truck has absolute traction. Two minutes' time and his hands are all the driver needs. No tools—no jacking up the wheels.

A Style for Every Type of Wheel and Tire

The Giant Grip line includes a style for any truck, no matter what wheel and tire equipment is used. Yet the dealer has but few models to carry in stock. Broadcast advertising makes quick turn-over sure. Write to us for particulars.

Giant Grip Mfg. Company
Established 1863 Dept. 25 Oshkosh, Wisconsin
Formerly Named Challoner Company
New York Distributors:
SHULTIS AUTOMOTIVE CORPORATION, 16-22 W. 61st Street, New York City

Giant Grip

Traction Equipment for Motor Trucks

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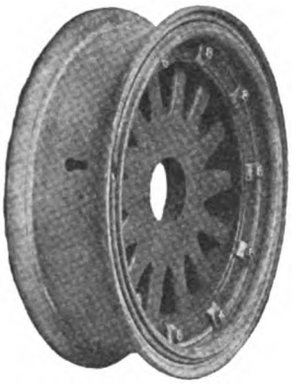
WHEELS AND RIMS

FOR PNEUMATIC TRUCK TIRES



We furnish promptly, any sizes from 32 x 4½ inch to 42 x 9 inch and to fit the hubs of ANY MAKE OF TRUCK.

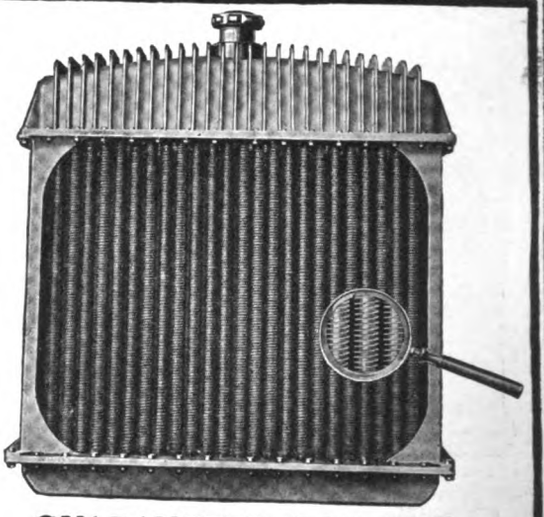
Send for Price List D

LUVERNE MOTOR TRUCK CO.

LUVERNE, MINN.

Manufacturers of Truck Parts

RADIATOR INSURANCE



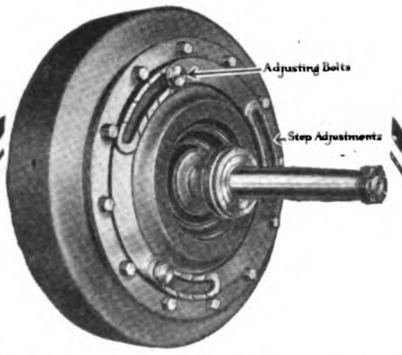
GUARANTEED FOR THE LIFE OF THE TRUCK

These Seamless Helical Tube Cooling Sections are perpetual insurance against radiator trouble.

Write for complete information.

Rome-Turney Radiator Co.

Rome, New York, U. S. A.



"M & E" Dry Disc Clutch

Pat. Pend.

No matter how satisfactory the performance of Engine, Joints or Bearings, unless a thoroughly good clutch is used your Truck will not give you effective service.

Here Is Where Quality Counts

The "M & E" Dry Disc Clutch is a sturdy unit that transmits the full power from the motor to the rear axle without the many disadvantages usually found in other clutches.

Put your Clutch problems up to our Engineering experts.

MERCHANT & EVANS Co

NEW YORK PHILADELPHIA WHEELING
BALTIMORE CLEVELAND
LANCASTER, PA. DETROIT
ATLANTA CHICAGO
KANSAS CITY

The K. & L.

EFFICIENT and DURABLE RADIATORS

The ACE of Radiators

INVESTIGATE

Send for samples and report on preliminary tests—then send us your B-P's and engine data and let us prescribe for your particular wants and give you our quotations.

We manufacture all sizes and shapes of cores for all purposes. We also build all styles of complete radiators.

THE K. & L. RADIATOR MFG. CO.

618-24 Turner Street, ALLENTOWN, PA.

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The LAW of LUBRICATION

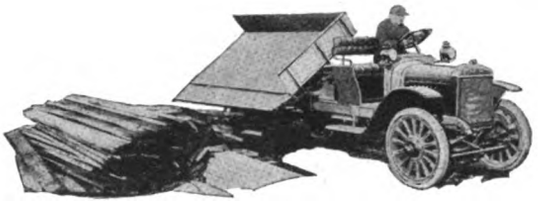
FOR EVERY MACHINE, of EVERY DEGREE of WEAR there is A SCIENTIFIC SINCLAIR OIL to SUIT its SPEED AND CONSERVE its POWER.

Sinclair Refining Co. Chicago

SINCLAIR OILS

DEALERS -- DEALERS

Get after the Side-Dump Body Business and increase the output of Trucks.



DUMPED
with an
AUTOMATIC SIDE-DUMP BODY

To increase the Sales of Trucks put on a Side Dump Body and Watch your Business Grow.

Dumps in any weather.
Will outwear any truck.
No lost space back driver's seat.
Can't break down and get out of order.
Dumps a 3 yard load in a minute and a half.
Dumps all the load off without operating Truck.

Fits Any Chassis

Write for attractive Dealers' Contract.

AUTOMATIC DUMP CAR COMPANY
Sales Dept. A
1701 Ernsperger Avenue, South Bend, Ind.

THE Sanford MOTOR TRUCK

A CANNER'S TESTIMONIAL

SANFORD MOTOR TRUCK CO., June 1, 1920.
Syracuse, New York

Gentlemen:

You will be glad to know that the three 3½-ton Sanford Trucks which we ordered early in the spring are giving a very satisfactory account of themselves.

We are rather old hands at truck usage and have had many styles and types. Motor trucks today are almost indispensable for the canner while continuous service is absolutely essential to their successful use. Whatever duty we have sought for Sanford Trucks they have accomplished.

Yours very truly,
B. C. OLNEY, Manager.

Sanford
WORM DRIVE

ATTRACTIVE CONTRACT
OPEN TERRITORY
IMMEDIATE DELIVERY
GUARANTEED SERVICE
INQUIRIES SOLICITED

Sanford Motor Truck Co., Syracuse, N. Y.

PNEUMATIC
TRUCK
TIRES

Write if Interested!

Splendid selection of factory-blemished and surplus stocks from the better Akron factories

The Rubber City Clearing House Co.
AKRON, OHIO.

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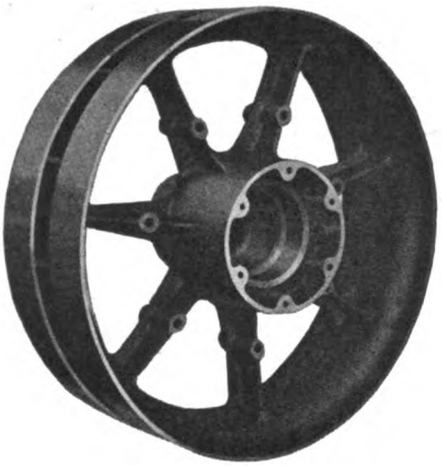
WEST
Cast Steel Wheels



Hubs Cast Integral
Any Make of Axle
Any Make of Tire

Specify West Cast Steel Wheels On Your Next Truck Order

THE WEST STEEL CASTING CO.
Cleveland, Ohio

New York	Chicago	Detroit
1790 Broadway		205 Kresge Bldg.

"Watch the WEST STEEL WHEELS Go 'Round"

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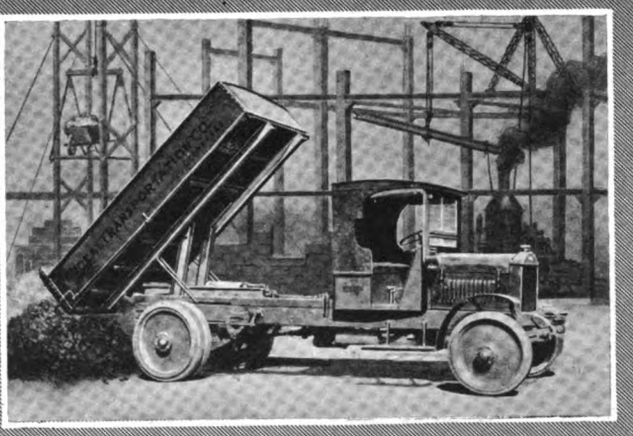

In Service—

The day after day positive performance, never-failing action, absolutely dependable ability of

HORIZONTAL HYDRAULIC DUMPING UNITS

to deposit any load exactly where it is wanted—to save time and labor—to increase motor truck efficiency—are *facts* that have won the approval of most of America's prominent motor truck manufacturers.

Horizontal Hydraulic Hoist Co.
35 Twenty-fifth St., Milwaukee, Wisconsin
SALES AND SERVICE STATIONS
Chicago: 3755 Wentworth Ave.
Detroit: 605 Gratiot Ave.

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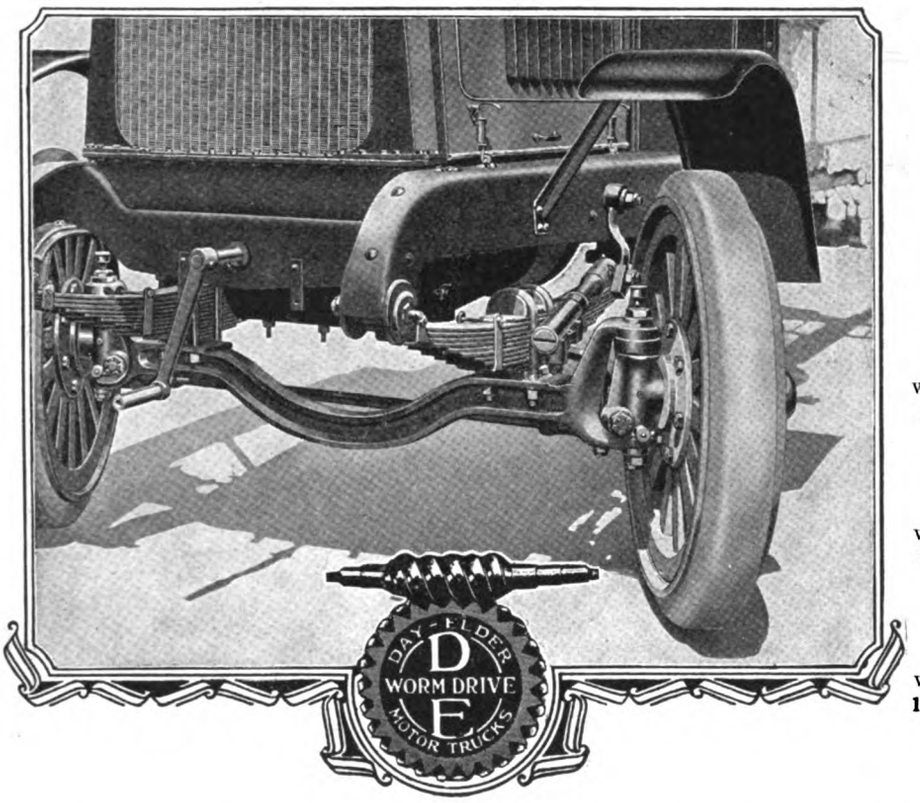

Model A
1-1½ tons Capacity Including Weight of Body
3500 Pounds

Model B
1½-2 tons Capacity Including Weight of Body
4500 Pounds

Model D
2-2½ tons Capacity Including Weight of Body
6000 Pounds

Model C
2½-3 tons Capacity Including Weight of Body
7000 Pounds

Model F
3½-4 tons Capacity Including Weight of Body
9000 Pounds

Model E
5-6 tons Capacity Including Weight of Body
14,000 Pounds

BESIDES a substantial percentage of profit, far-sighted motor truck dealers today are demanding two other sales qualities in the truck they sell.

The dealer who is planning a business that will last and increase in volume is now insistent on (1st)—A motor truck of such outstanding value that it will, of itself, create a high percentage of repeat orders; (2nd)—A motor truck that gives such high investment value because of its low first cost, maintenance cost and durability, that first sales are frequent and easy against *any* competition.

These three requirements which the modern substantial motor truck dealer demands in a truck—profits, automatic "repeats" and investment value—are prominent DAY-ELDER sales characteristics.

You'll find the repeat sales percentage of DAY-ELDER trucks unusually high. And you'll find that DAY-ELDER trucks have the same quality materials and the same power of stamina, endurance and performance that are to be found in the most expensive worm-drive trucks.

Yet the average price of all DAY-ELDER models is markedly lower than that of any other worm-drive trucks of the same carrying capacity.

This super-value is inherent in DAY-ELDER methods of production and merchandising.

One conspicuous reason why DAY-ELDER trucks are the soundest investment of their kind, is the fact that every dollar of the prices paid is represented by its full share of value in the trucks themselves. It is not decimated to meet the burdens of speculative publicity, excessive selling costs or extravagant overhead.

Experienced dealers are appreciating the value of the DAY-ELDER franchise today as never before. Write for particulars.

MEMBER OF THE MOTOR TRUCK MANUFACTURERS ASSOCIATION
MTMA

DAY-ELDER MOTORS CORPORATION

FACTORY: NEWARK, N. J., U. S. A.

Southwestern Sales Office: 1701 McGee St., Kansas City, Mo.

DAY-ELDER
Worm-Drive Motor Trucks

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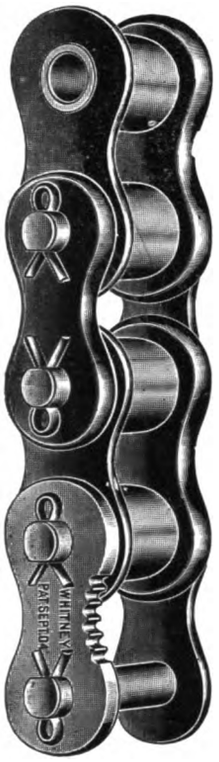


Roller Type

"WHITNEY" CHAINS

Equip Your Motor Trucks and Tractors with "Whitney" Chains

Now that the motor truck is handling so much of the freight that was formerly cared for by the railroads, it must run on a schedule almost as exacting as that of the railroad train itself. This emphasizes the necessity of selecting a chain which can be relied on under all conditions of speed, road and weather.

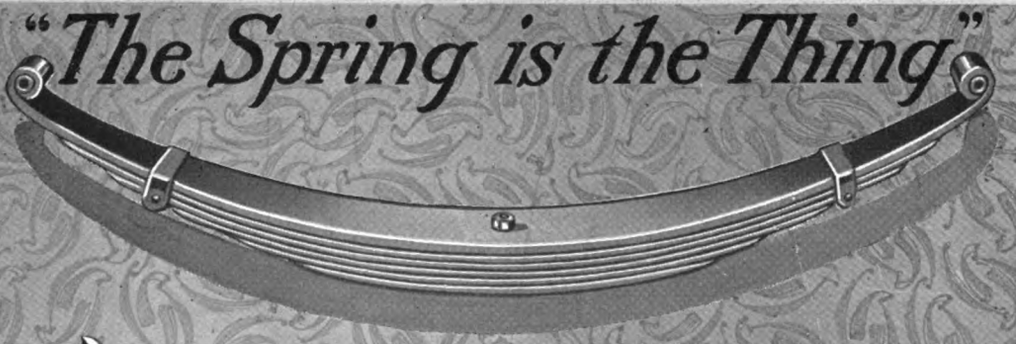
THE WHITNEY MFG. CO.

HARTFORD, CONN.

Chains **Keys and Cutters** **Hand Milling Machines**

Silent Type

"The Spring is the Thing"



MATHER SPRINGS

Scientifically Heat-Treated

Unequalled For

Lightness, Flexibility and Endurance

Genuine made only by

THE MATHER SPRING COMPANY

Toledo, Ohio.

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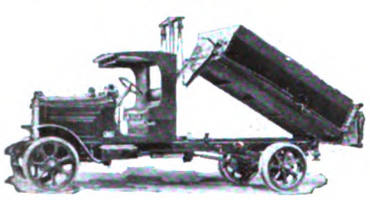
¾-Ton

1-Ton

1½-Ton

2½-Ton



3½-Ton

2-Ton shown below

Stewart MOTOR TRUCKS

Every month and every year Stewart sales keep jumping

A MILLION a month and more! One of the world leaders in truck building in just eight years—that's the Stewart record! Starting with $12,000 a month in 1912, business men and farmers this June paid over $1,400,000.00 for Stewart Trucks.

The growth has been constant and consistent. Owners who bought one on trial soon built up their fleets. And told others of their wonderful capacity for work. And their economy in use.

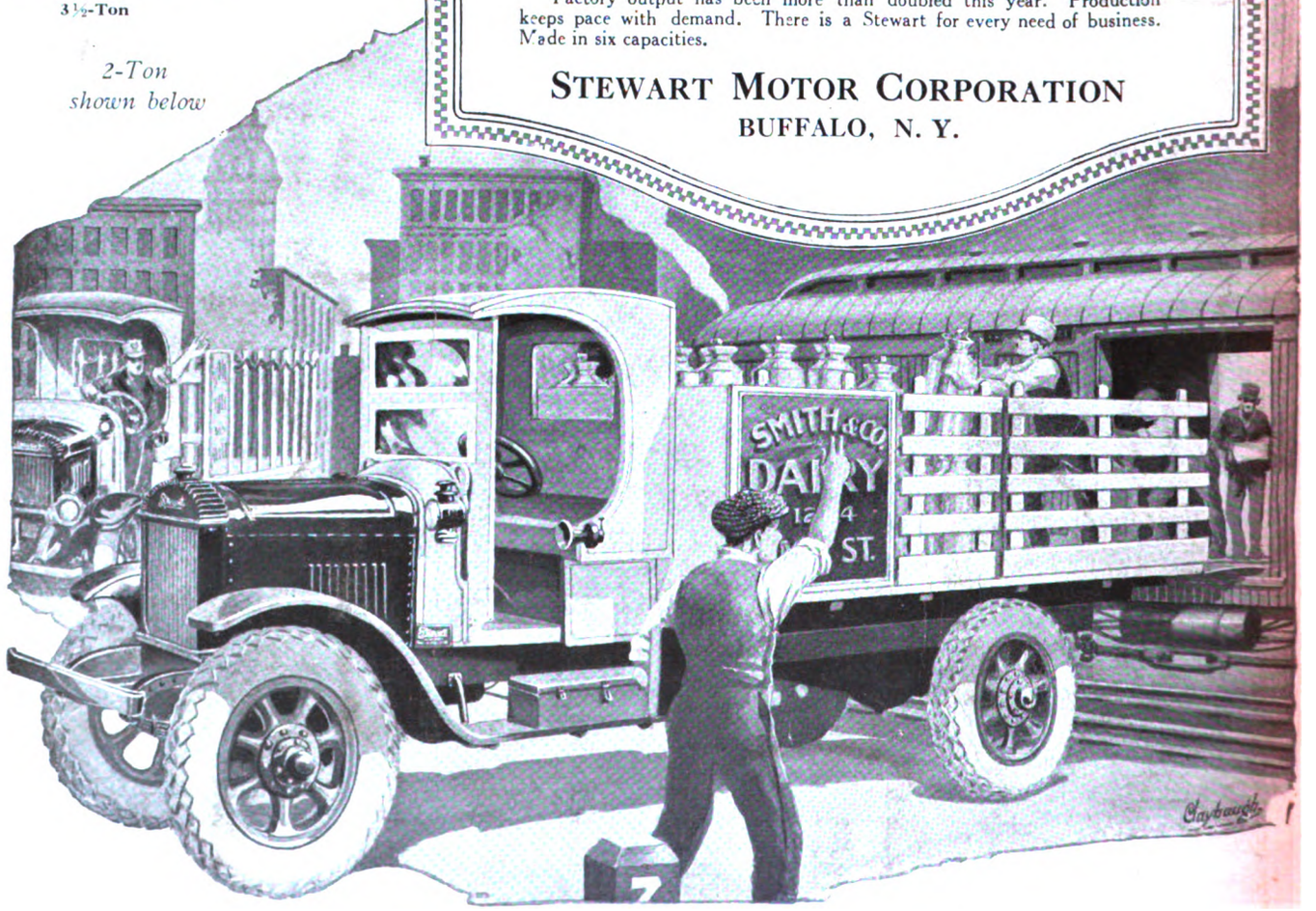
Stewart trucks have won—By costing less to run.

Inexpensive to buy and economica to run; Stewarts are built right, balanced right, strong and sturdy. Designed by experienced truck engineers; built entirely of truck parts, with all needless parts and hundreds of pounds of needless weight eliminated, Stewarts save on first cost, on tires, repairs, gasoline and oil.

Every dollar invested in a Stewart is a working, earning dollar. Stewarts pay profits to owners. Today more than a million dollars a month is being paid for them throughout the United States and in 38 foreign countries.

Factory output has been more than doubled this year. Production keeps pace with demand. There is a Stewart for every need of business. Made in six capacities.

STEWART MOTOR CORPORATION
BUFFALO, N. Y.



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62

POWER WAGON

Number 191 CHICAGO, OCTOBER, 1920 Price 50 Cents

LIBRARY

THE rapid success of the Kelly-Springfield Caterpillar tire has been due to two things:

It was the first cushion type tire suitable for use on trucks of all weights and sizes.

And it offered to truck owners a combination of mileage, traction and resiliency such as they had never before been able to get in *any* type of tire.

Kelly-Springfield Tire Co.

GENERAL SALES DEPARTMENT

1710 Broadway, New York

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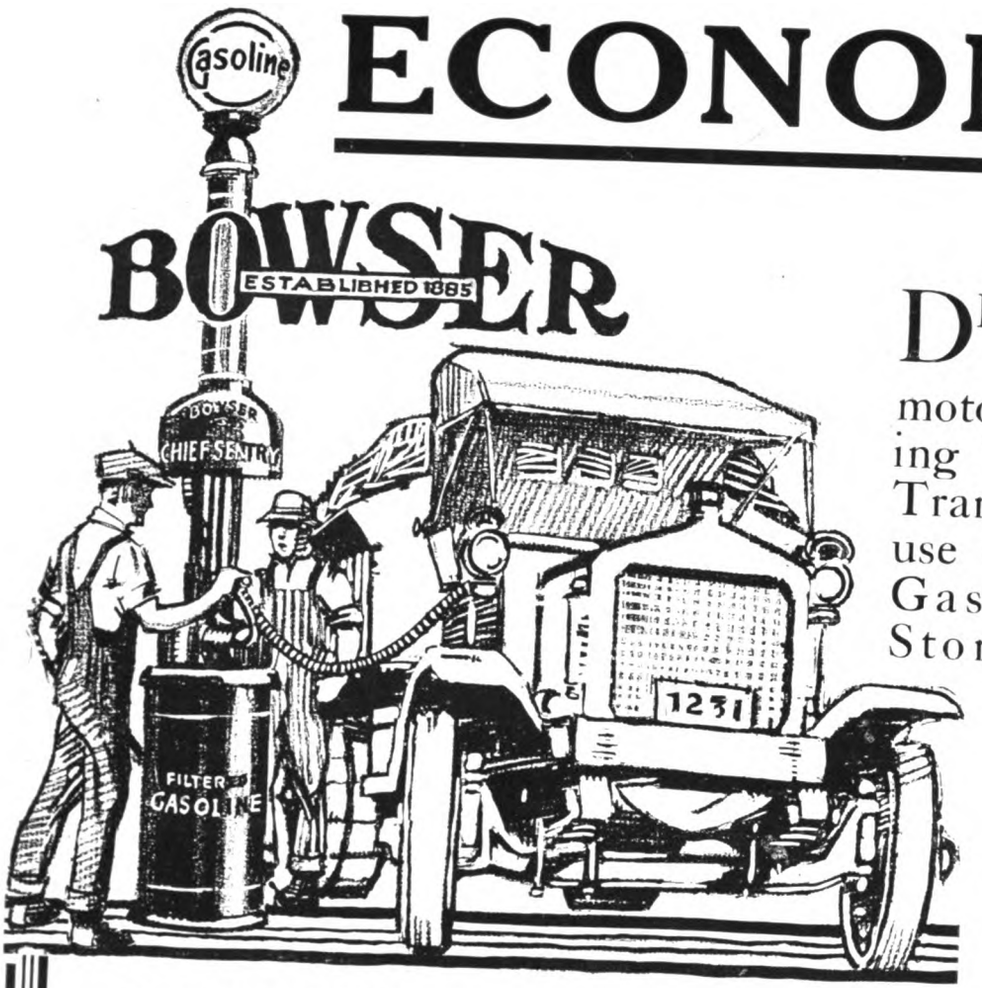
ECONOMY!



DISTRIBUTORS and users of motor trucks are talking "Economical Transportation." The use of BOWSER Gasoline and Oil Storage Systems eliminates evaporation and increases the mileage per gallon from gasoline and oil.

GASOLINE

Let us presume that 1,000 gallons of gasoline should operate a 3½-ton truck for 10,000 miles.

Careless storage will easily cause the evaporation of 25% of this volume—this means the loss of the mileage from 250 gallons of gasoline and reduces the mileage obtainable from the residue. The entrance of foreign matter through inferior storage causes still further loss of power.

LUBRICATING OIL

60 gallons of oil should reasonably lubricate a 3½-ton truck for 10,000 miles.

A poor system of oil storage and supply inevitably permits the entrance of dust and grit.

A Bowser System will reduce motor wear by preventing the entry of foreign matter in to the lubricating oil.

When there is a BOWSER SYSTEM to fit every need, why experiment? BOWSER represents the full measure of satisfaction.

S. F. Bowser & Company, Inc.

Fort Wayne, Indiana, U. S. A.

S. F. Bowser Co., Ltd., TORONTO

S. F. Bowser & Co. of Texas, DALLAS

BRANCH OFFICES IN PRINCIPAL CITIES OF THE WORLD

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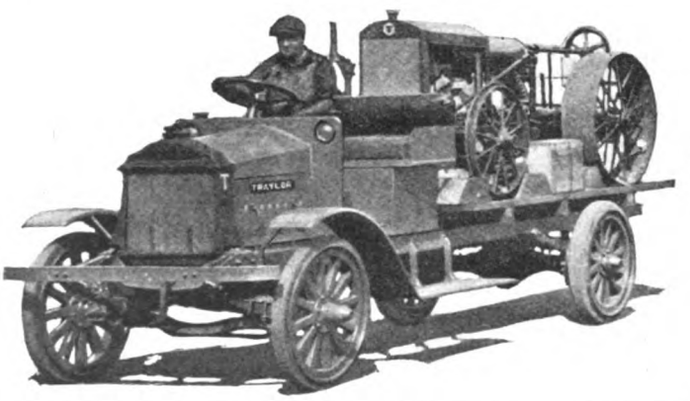
TRAYLOR

THE manufacturing prestige of the Traylor organization has, in twenty years, accumulated an international recognition of first rank. That is why the Traylor dealer franchise and Traylor guarantee represent a coat-armor of worth to dealers and owners of Traylor motor trucks and farm tractors.

Traylor Engineering and Manufacturing Co.
Allentown and Cornwells, Pa.

"Products of an Old Organization."



Some Territory Open to Responsible Dealers

Allentown ***New York*** ***Chicago*** ***Pittsburgh*** ***Los Angeles*** ***Spokane***

MOTOR TRUCKS & FARM TRACTORS

Please mention "Power Wagon" when writing to advertisers.

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"NORMA"

PRECISION BALL BEARINGS

(PATENTED)

SOME things are so unalterably good, so inescapably essential, as successfully to resist even the cheapening effect of low-priced competition. With the passing of years, the demand steadily increases for "NORMA" Bearings—an inevitable result of the steadily increasing demand for the high-grade magnetos and lighting generators in which "NORMA" Bearings are standard.

See that your electrical apparatus is "NORMA" equipped.

THE NORMA COMPANY OF AMERICA

Anable Avenue
Long Island City
New York

Ball, Roller, Thrust and Combination Bearings

POWER WAGON

An exponent of the most enlightened thought and practice of the motor truck industry.

Published monthly by

THE POWER WAGON PUBLISHING COMPANY

544 Lake Shore Drive, Chicago, U. S. A.

Entered as second-class matter December 2, 1907, at the post office at Chicago, Illinois, under the Act of Congress of March 3, 1879.

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VOL. XXV. OCTOBER, 1920. No. 191.

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THE POWER WAGON PUBLISHING COMPANY

WALTER WARDROP, *President and General Manager*
STANLEY A. PHILLIPS, *Vice-President and Editor*

Executive and Editorial Offices, 544 Lake Shore Drive, Chicago.

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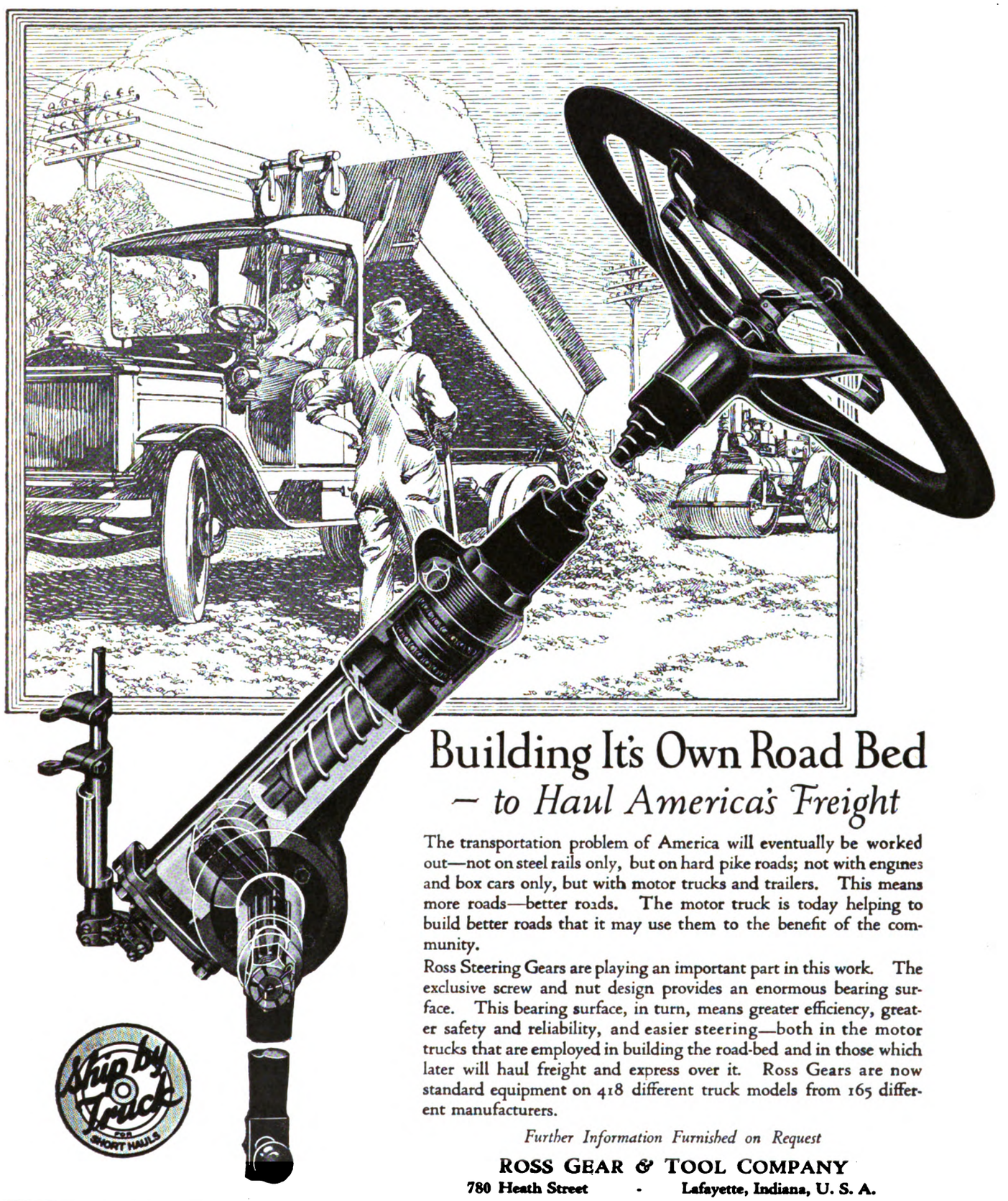

Building It's Own Road Bed
— to Haul America's Freight

The transportation problem of America will eventually be worked out—not on steel rails only, but on hard pike roads; not with engines and box cars only, but with motor trucks and trailers. This means more roads—better roads. The motor truck is today helping to build better roads that it may use them to the benefit of the community.

Ross Steering Gears are playing an important part in this work. The exclusive screw and nut design provides an enormous bearing surface. This bearing surface, in turn, means greater efficiency, greater safety and reliability, and easier steering—both in the motor trucks that are employed in building the road-bed and in those which later will haul freight and express over it. Ross Gears are now standard equipment on 418 different truck models from 165 different manufacturers.

Further Information Furnished on Request

ROSS GEAR & TOOL COMPANY
780 Heath Street - Lafayette, Indiana, U. S. A.

ROSS STEERING GEARS

THE STEERING GEARS THAT PREDOMINATE ON MOTOR TRUCKS

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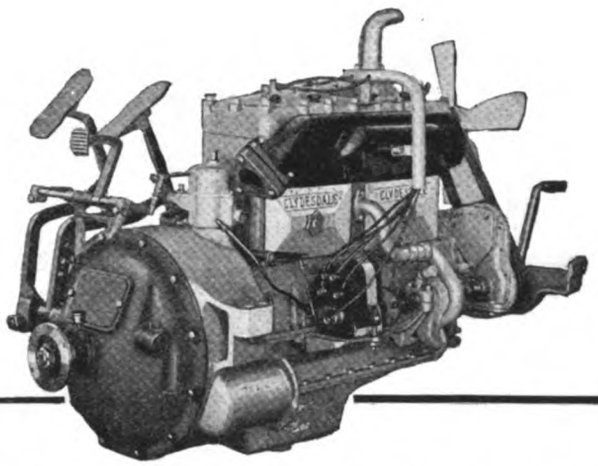
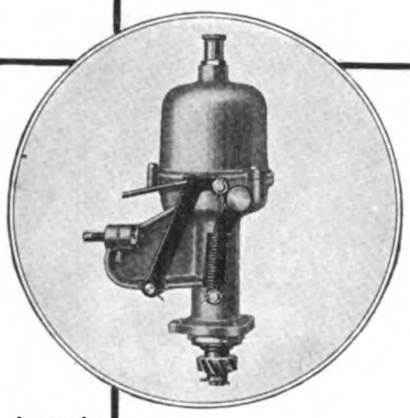
In every sense a truck motor, with the added advantages of the Clydesdale Controlier to protect it and lengthen its life.





No other truck has it—"The Driver Under the Hood"

How the New Clydesdale Motor Saves Gas and Oil

ON Wednesday morning, June 30th, two Clydesdale 1½-ton trucks started from the factory in Clyde, Ohio, in charge of drivers from the distributor in Philadelphia, Pa.

Both trucks arrived in Philadelphia the evening of July 3rd, having traveled 595 miles.

One truck, equipped with the old type of motor, consumed 100 gallons of gas and 3¼ gallons of oil.

The other truck, equipped with the new Clydesdale motor with a five bearing crankshaft, *and loaded with one ton of parts*, consumed only 68 gallons of gas and 1½ gallons of oil, a remarkable saving considering its load.

This comparison is not meant to show any performance record, but simply to demonstrate the fact that the new Clydesdale motor affords a distinct saving because it is designed for the Clydesdale truck and is not merely a stock motor adapted to a certain chassis.

Such a difference is worth while considering when comparing various trucks.

THE CLYDESDALE MOTOR TRUCK COMPANY
CLYDE, OHIO

CLYDESDALE MOTOR TRUCKS

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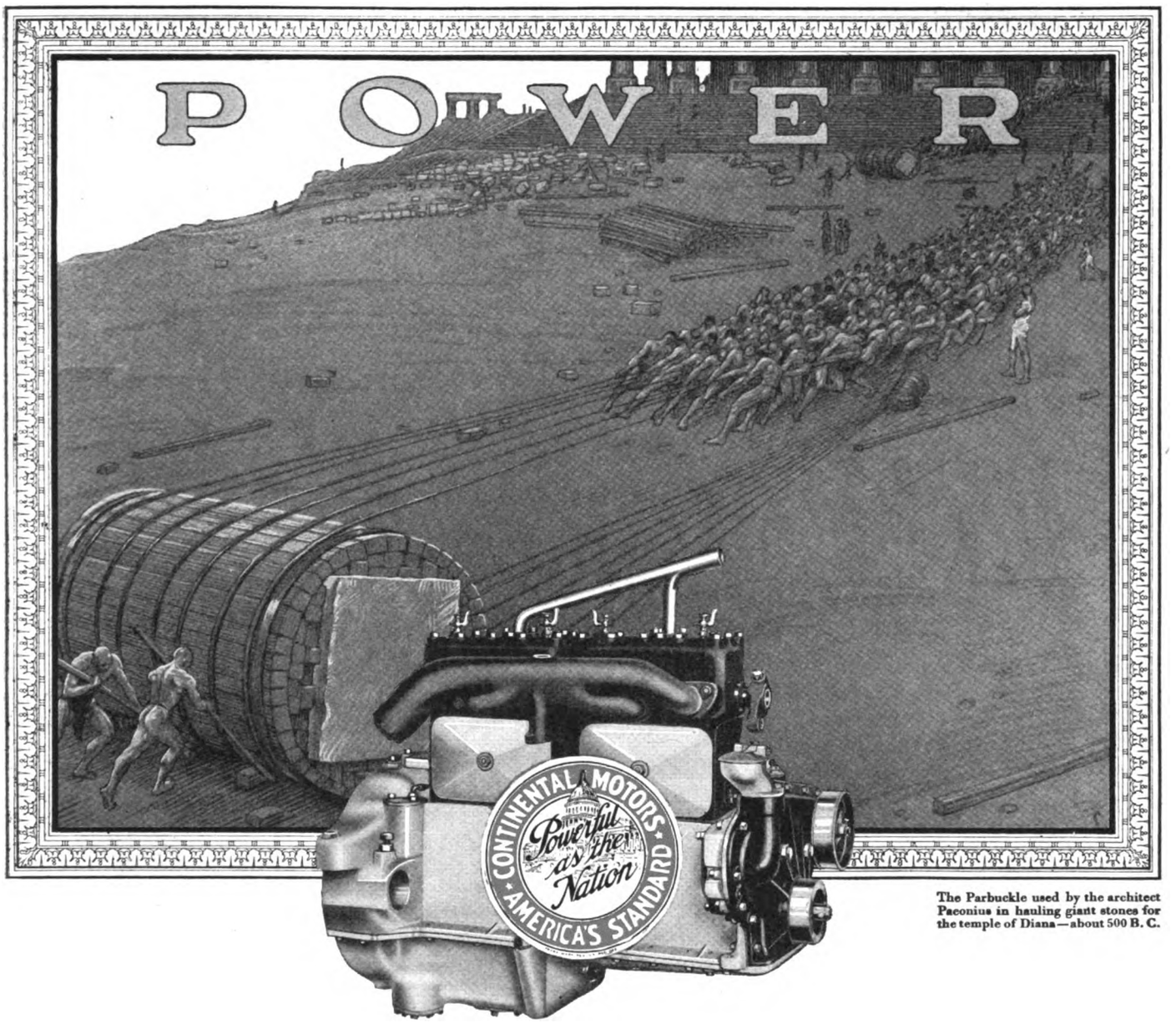

The Parbuckle used by the architect Paconius in hauling giant stones for the temple of Diana—about 500 B. C.

The outstanding characteristic that dominates the history of the development of power-producing mechanism, is the energy with which all creeds and all races have striven to achieve perfection. ¶And the same characteristic is apparent today where Continental Motors are produced. Not only the maintenance of Continental standards of quality, but the consistent development of the Continental product to keep pace with the march of the industry—THESE are the factors that assure the continued supremacy of the motor that is known everywhere by the mark on its crank-case—the Continental Red Seal.

CONTINENTAL MOTORS CORPORATION

Offices: Detroit, U. S. A. Factories: Detroit and Muskegon

Largest Exclusive Motor Manufacturers in the World

Continental Motors

STANDARD POWER FOR TRUCKS, AUTOMOBILES AND TRACTORS

Please mention "Power Wagon" when writing to advertisers.

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Asbestos Rock

Note the strong silken fibres. That is the distinction between the high grade rock from which Non-Burn is woven and the general run-of-mine fibre sold on the open market.

Woven Rock!

THINK of Johns-Manville Non-Burn Asbestos Brake Lining as woven rock. Blasted apart with dynamite, thousands of tons of asbestos rock are torn from Johns-Manville's mines and sent to their mills to be separated and graded.

Selecting the Rock for Non-Burn

Yet from these tons of fibrous rock, only a small percentage is selected in the grading process as being exactly suitable for brake lining. And this special asbestos, now a mass of strong, silky fibres, is shipped to the Johns-Manville factory to be spun and woven into Non-Burn Asbestos brake lining.

Spinning Rock Fibres

In the factory, specially designed machines spin the fibres of Asbestos rock into a strong, pliant yarn.

JOHNS-MANVILLE SERVICE COVERS THIS CONTINENT

Through—

Asbestos

and its allied products

JOHNS-MANVILLE
Serves in Conservation

Heat Insulations, High Temperature Cements, Asbestos Roofings, Packings, Brake Linings, Fire Prevention Products

JOHNS — AUTOMOTIVE

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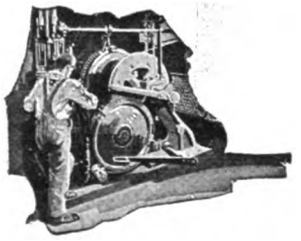
Wearing Rock Yarn

This rock yarn, together with brass wire (except in the case of Non-Burn for Ford cars, where the brass wire is omitted) is woven into a narrow, heavy fabric, a fabric so strong and closely woven that it seems already, suitable for brake lining.

Impregnating Woven Rock

But before this fabric is ready to put on brakes, it is impregnated with a compound that gives it oil and water resisting qualities—not only on the surface, but through and through.



Johns-Manville furnished brake lining for such industrial machines as the above, when the automobile was but a blue-print fantasy.

Johns-Manville Non-Burn is Woven Rock

Non-Burn—woven asbestos rock—is the only brake lining mined, spun, woven and marketed by the same firm from start to finish. Think of the unified responsibility that stands back of every inch of it.

Advertising Non-Burn

You will recognize the outstretched arm, and the word "Brakes", so familiar to millions of people through their appearance in Johns-Manville national advertising. Day after day we tell your customers about Johns-Manville Non-Burn Asbestos brake lining and how it makes brakes last longer.

JOHNS-MANVILLE CO.
Madison Avenue at 41st Street, New York City
10 Factories—Branches in 64 Large Cities
For Canada
CANADIAN JOHNS-MANVILLE CO., Ltd.
Toronto

Selling Non-Burn

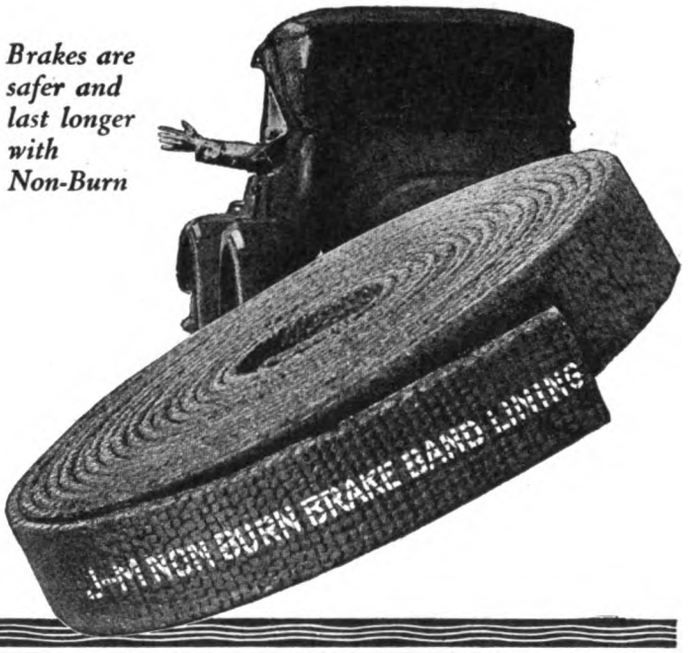
Non-Burn asbestos brake lining is most readily saleable, because of the consumer demand Johns-Manville national advertising has built for it.

Moreover your sales are aided and your profits protected through the Johns-Manville policy. Ask a Johns-Manville Distributor about it.

Or ask any Johns-Manville branch to tell you about the opportunities for dealers in the sale of Non-Burn asbestos brake lining—the brake lining that is woven from asbestos rock.

Johns-Manville NON-BURN Asbestos Brake Lining

Brakes are safer and last longer with Non-Burn



MANVILLE EQUIPMENT

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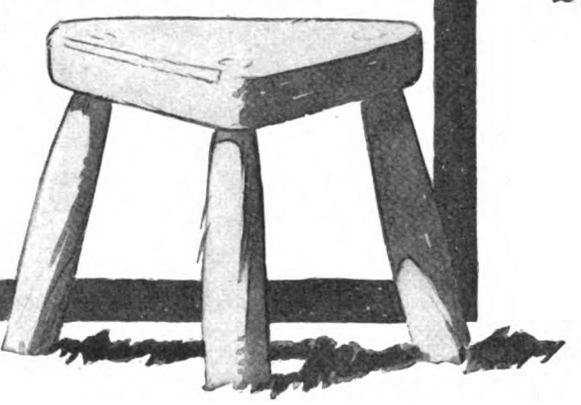
and the MILKING STOOL

HAVE *you* crept forth from bed at dawn and "so-bossed" a refractory cow all around the barnyard? Then you don't need a professor to tell you that "three points determine a plane". No matter how rough the ground, the old three-legged stool would stand.

That's why the Atlas Worm Drive has three points —three fixed points that make it fool-proof. It can't get out of adjustment. It won't allow friction to burn up a lot of power. It renders the rear axle always efficient.

This is only one of the many features that make the "Merchants' Dispatch" as sturdy as it is light. Ask your dealer or us to explain the three major links in the Atlas chain of excellence.

Individual Body Equipment for Every Business



ATLAS WORM-DRIVE "MERCHANTS' DISPATCH"

YORK, PENNSYLVANIA

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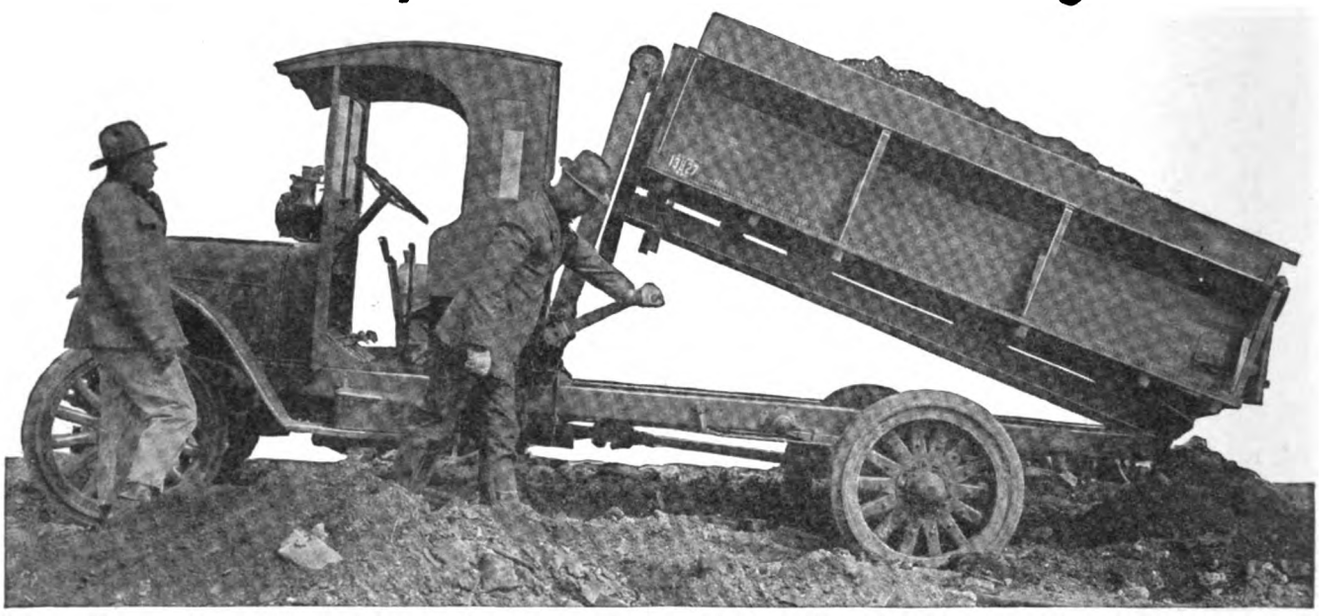
TRADEMARK

"Always On the Job"



A Columbian Lightning Hoist attached to a wooden body—One man handles a Five-ton load with ease

—the Hoist

(PATENTED)

THE Columbian Lightning Hoist is in use in every part of the United States; also extensively used in Canada, Mexico, Cuba, Jamaica, Japan and other foreign countries.

It is a time and labor saving device for all concerns who are engaged in the hauling of loose materials such as Coal, Gravel, Sand, Crushed Rocks, Dirt, Refuse, etc. One man can easily handle a five-ton load. Fits any chassis—can be easily attached.

—the Body

THE Columbian All Welded Metal Dump Bed is the latest in dump body construction. Thru the use of this all welded method all rivets are eliminated, making a strong job for durability and hard usage.

Made in two standard models, straight sides and flared sides, with or without endgate.

Write us for illustrated folder No. 89 or

Write Your Nearest Distributor

Davenport Body Co., - Davenport Iowa, 1509-33 Rockingham Road
Hummel Mfg. Co., - St. Louis, Missouri, 3008 La Salle Street
Jules Mechanic - - Pittsburgh, Pa., 248 Croft Street
Giant Motor Truck Co., - Vancouver, B. C., Grandville Pac. Street
Largerquist Car & Auto Co., Des Moines, Ia., 514 West 2nd Street
S. S. Albright, - Sacramento, California, 13th & U Streets
Beard & Co., - Louisville, Kentucky, 418 Keller Building
Blackwell Motor Co., Spokane, Washington, Corner 3rd & Post Streets
Landes & Co., - - Salt Lake, Utah, 2nd. West and South Temple
Jacob H. Press & Sons, 300 Halstead Street, Chicago, Illinois

COLUMBIAN STEEL TANK CO.

"TANKS FOR THE WORLD"
1519-1625 WEST 12th STREET

"ESTABLISHED IN 1894"
KANSAS CITY, MISSOURI.

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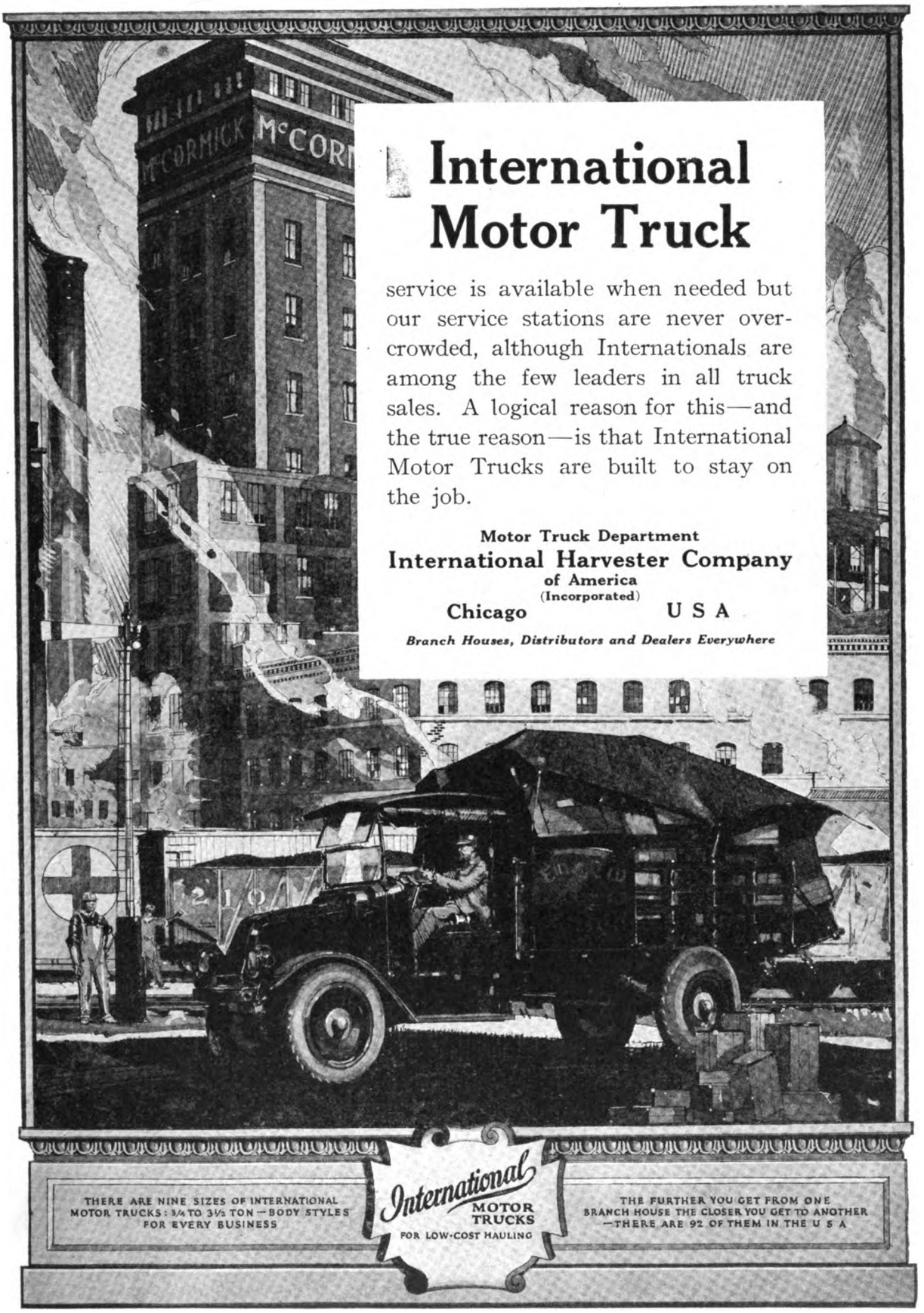

International Motor Truck

service is available when needed but our service stations are never overcrowded, although Internationals are among the few leaders in all truck sales. A logical reason for this—and the true reason—is that International Motor Trucks are built to stay on the job.

Motor Truck Department
International Harvester Company
of America
(Incorporated)
Chicago U S A

Branch Houses, Distributors and Dealers Everywhere

THERE ARE NINE SIZES OF INTERNATIONAL MOTOR TRUCKS: 3/4 TO 3½ TON—BODY STYLES FOR EVERY BUSINESS

THE FURTHER YOU GET FROM ONE BRANCH HOUSE THE CLOSER YOU GET TO ANOTHER —THERE ARE 92 OF THEM IN THE U S A

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Working hand in hand with pneumatics
Big lumbering trucks with enormous pneumatic tires are becoming familiar sights on every road.
WOOD Wheels afford an additional shock absorbing feature. They pick up the shocks and vibrations that are not taken up by the pneumatics.
Wheel bearings, axles and differential are protected by the shock absorbing qualities of WOOD Wheels from vibrations, which if transmitted with undiminished force, would work havoc with these unsprung parts.
This is another reason why WOOD Wheels have been used for years and will continue to be used on the world's best trucks.
AUTOMOTIVE WOOD WHEEL MANUFACTURERS' ASSOCIATION
105 West Monroe Street Chicago, Ill.
NOTE THE WOOD WHEELS EVERYWHERE
WOOD WHEELS for MOTOR VEHICLES

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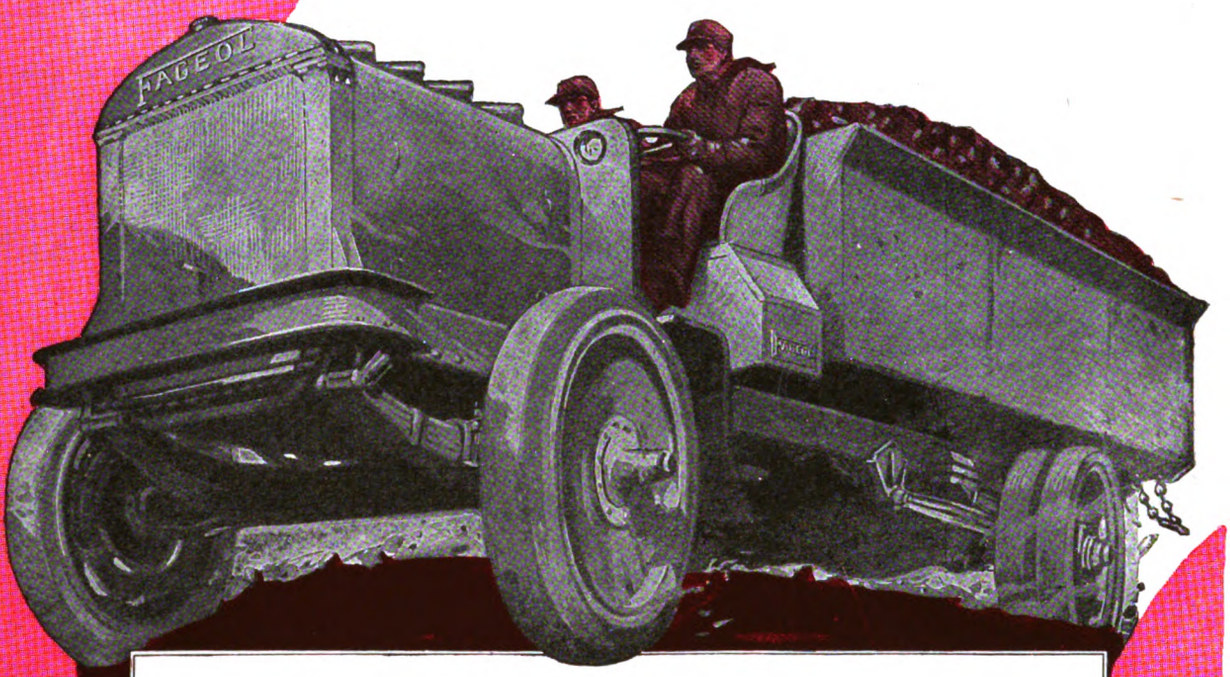
91% More Pulling Power
36% More Road Speed



—and greatly decreased gasoline consumption.

The secret is in the gear box of the Fageol—*the truck with the compound transmission* (patents pending).

Present and future transportation problems will be solved by motor trucks having a wider range of power and speed combined with greater operating economy.

Fageol Trucks will be marketed through a limited number of high grade dealers. Your territory may still be open.

Two Models—Medium and Heavy Duty.

FAGEOL MOTORS COMPANY [OF OHIO], CLEVELAND, O.
FAGEOL MOTORS COMPANY. OAKLAND, CAL.

FAGEOL COMPOUND TRUCKS

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Pulling Power of PIERCE-ARROW 2-ton, 3½-ton, 5-ton Dual Valve Trucks

The Dual Valve principle produces greatly increased power, a surprising operating economy and a surpassing performance.

INCREASED valve area facilitates the intake and exhaust of gas while the double ignition assures complete combustion—delivering *the full power* of the explosion and *saving gasoline.* It effects important saving in operation and maintenance and increased efficiency.

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OTHER advantages produced include accessibility to quick repairs and easy operation—both vital to time-saving and reduction of labor costs.

This has been accomplished without sacrifice of durability, long life or continuous operation—predominant Pierce-Arrow characteristics.

Pierce Arrow

48 of the FIRST FIFTY trucks still running after 9 years' service.

Delivers more work in a given time.

Loses less time on the job and off the job.

Costs less to operate and less to maintain.

Lasts longer, depreciates less, commands a higher resale price.

THE PIERCE-ARROW MOTOR CAR COMPANY, BUFFALO, N. Y.

Please mention "Power Wagon" when writing to advertisers.

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The Transportation Question Every Business Executive Must Answer

"ARE you bringing your transportation equipment up to the assured demands of this fall and winter?"

The railroad situation is gradually improving, but railroad equipment is admittedly five years behind the business needs of the present.

Good business judgment demands an immediate stock-taking of your present transportation equipment.

Motor trucks are being called upon to handle a constantly increasing share of the country's short haul transportation. They can relieve your business of a large part of the delay and annoyance incident to the railroad situation.

By assuming more of the short haul traffic they can help set free to your advantage the full complement of railroad equipment for long haul and bulk shipments.

Motor trucks will give your business a valuable measure of transportation independence.

THE AUTOCAR COMPANY, Ardmore, Pa., Established 1897

The Autocar Sales and Service Company

New York	Boston	Philadelphia	Pittsburgh	Chicago	San Francisco
Brooklyn	Providence	Camden	Baltimore	St. Louis	Sacramento
Bronx	Worcester	Allentown	Washington	Dallas	Oakland
Newark	New Haven	Wilmington	Richmond	Los Angeles	Stockton
Schenectady	Springfield	Atlantic City	Atlanta	San Diego	Fresno
					San José

Represented by these Factory Branches, with Dealers in other cities

Autocar

Wherever there's a road

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POWER WAGON

Vol. XXV. CHICAGO, OCTOBER, 1920. No. 191.

Early Resumption of Normal Business Is to Be Expected

TRADE REPORT PROMISES BETTERMENT

WASHINGTON, D. C., Sept. 22.—A strong belief in a gradual and natural readjustment of business conditions without financial disorder or any sudden economic calamity is expressed by the Committee on Statistics and Standards of the Chamber of Commerce of the United States, in its semi-annual bulletin on crop and general business conditions. Tight money, unrest of labor, the loosened bonds in some phases of social life, the Russian-Poland war and the high cost of necessities are enumerated as disturbing business factors, but in the opinion of the committee there is no need to become panicky over any of these matters.

The committee finds a widespread feeling that business will probably continue good for the remainder of the year.

"Amid all the cross currents and eddies of the industrial situation a definite trend seems to be slowly developing toward a gradually increasing gain of supply upon demand and a somewhat lower level of prices," the committee reports. "In textiles and in some manufactures of leather there has been a decrease in production and lower prices. Here and there mills have shut down, elsewhere they are running on reduced time. It is a scattered and local matter rather than a general situation.

"The automobile industry seems to be headed toward somewhat lessened output. Also the jewelry business in New England is slowing down. Contrariwise, paper mills are busy and full of orders. This is also true of the metal lines, especially in finished articles. The latter are very scarce and prices are still advancing with no immediate signs of a decline. There is much complaint of the inefficiency of labor and of its scarcity, though this latter feature grows less marked. Shipbuilding displays lessened activity.

"Whether mining is busy and prosperous or the reverse, depends upon the nature of the metal. Gold mining still suffers from high cost of production and the stationary price of gold. Silver mining feels the effect of the decline in the price of silver. The price of zinc is low and the demand not equal to the possibilities of supply. Lead is higher because of increased demand. Copper is dull because of a supply not yet disposed of. Iron mining is good. Phosphate mines in the south are doing well after many lean years.

"Contraction in financial credits has eliminated 'wildcatting' in the oil regions and this makes business there dull because supplies for drilling oil wells are no longer called for.

"Construction and building have slowed down because of many things, such as high prices and scarcity of both labor and materials and the practical withdrawal of credit accommodations on new construction. Some essential materials of building are very scarce, cement and wire nails, for instance. Lumber can be had, but cars for transporting it can not.

"Coal mining as usual has its flock of troubles—strikes and lack of cars being the principal ones. But they are enough. How the consumers and the business world regard the remainder of the year seems to be largely a matter of local conditions.

"The promise now, and it is almost fulfilled, is for 2,000,000 bushels of corn, 800,000,000 bushels of wheat, both winter and spring, and for a cotton yield of about 12,500,000 bales. Cotton, however, is not a safe reckoning as yet. There will be more oats than last year, and more tobacco (which is everywhere good), more

(*Continued on page 26.*)

Trailer Business Good

At a recent meeting of the Trailer Manufacturers' Association in Cleveland it was pointed out that many of its members still have a large number of unfilled orders on their books and that new business has commenced to come in after a temporary lull. Foreign business is good.

Many expressions of favor of the proposed reduction in the number of models offered by various manufacturers were heard, one maker reporting a reduction in his case from 48 to 12 models in one year. The feasibility of standardizing axle dimensions will be investigated by a committee, which will also report on a standard pintle-hook.

Two concerns were admitted to membership—Wentworth & Irwin of Portland, Oregon, and the Reliance Trailer & Truck Company, San Francisco.

Conditions Returning to Normal

The Federal Reserve Board, in its bulletin for September, states that conditions in public and private finance are beginning to give unmistakable evidence of a return to normal conditions.

Reductions in Ford Prices Stir Motor Trade Circles

NO GENERAL SLUMP EXPECTED NOW

Henry Ford has announced large reductions in the prices of his truck and passenger cars, effective September 22. The truck model's price has been lowered from $640 to $545, including pneumatic tires and demountable rims. Passenger car prices have been reduced from 12 per cent on the coupe to 31 per cent on the chassis. The new price of the Fordson tractor is $790 as compared with the old price, $850.

In explaining the reductions, which have provoked considerable comment among manufacturers and dealers, Mr. Ford said: "The war is over and it is time war prices were over. There is no sense or wisdom in trying to maintain an artificial standard of values. For the best interests of all it is time that a real practical effort was made to bring the business of the country and the life of the country down to normal. Inflated prices always retard progress. We had to stand it during the war, although it wasn't right, so the Ford Motor Company will make the prices of its products the same as they were just before the war. This in face of the fact that we have unfilled orders for immediate delivery of 146,065 cars and tractors. We must, of course, take a temporary loss because of the stock of materials on hand, bought at inflated prices, and until we use that stock up we will have to submit to a loss, but we take it willingly in order to bring about a going state of business throughout the country.

"There is a lull in general business; we are touched by the waiting period that always precedes a reaction; people in every walk of life are waiting for prices to become lower. They realize that it is an unwholesome, unnatural, unrighteous condition of affairs, produced by the war. It is one of the penalties civilization pays for war. In every line of activity there is a growing idleness because the demand is not there. Raw materials are being stored; manufactured goods are being stored, because the volume of consumption is growing and less and less, through the self-denial of the people, many of whom could not afford to pay the high prices. Others would not pay the high prices because they felt the injustice of the situation. Manufacturing plants are being shut

(*Continued on page 24.*)

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Business Outlook Appears Good, According to Survey

REASON FOR ENCOURAGEMENT FOUND

Franklin K. Lane, former Secretary of the Interior, has issued a statement, making public a summary of what he calls "the first comprehensive, carefully-made and approximately accurate picture of industrial, agricultural, financial and political conditions throughout the United States."

It discovers in the foreground, he says, that both major political parties have overlooked the greatest issue in the public mind, which is the cost of living. It also shows, he states, that the country is on a sound economic basis, with the wave of extravagance subsiding, saving increasing, wholesalers and retailers optimistic over the winter outlook, and a growing disposition for hard work, although the individual productivity of labor is not yet showing much evidence of increase.

Mr. Lane's statement summarizes a survey made through 900 field representatives of the Fidelity and Deposit Company of Maryland and covers every section of the country. Manufacturers, merchants, chambers of commerce, bankers, lawyers, business men and farmers were questioned in the effort to understand the immediate economic and political situation and obtain a consensus of representative opinion as to the future.

In a preface to his analysis of the survey, Mr. Lane says:

"With the presidential election but six weeks away and the winter rapidly approaching, many thoughtful people stand hesitant and undecided, having difficulty because of the general lack of knowledge of business conditions outside their own locality or interests. The general tendency has been to see what the next man thinks, with the uncomfortable feeling that his guess is no better than another's. I believe for this reason, the picture, presented in the tabulated analysis made by the Fidelity and Deposit Company, is of interest to every business man and other voter. While it is not, of course, perfect in detail and exact in prophecy, it is as clear and valuable a conspectus of present conditions as can be gathered."

Under the heading of industrial conditions, Mr. Lane says: "Economically, the United States is shown to be better off than any other country in the world. There is no evidence of idleness. Our people have the opportunity to work and are at work. There is no shortage of raw material sufficient to curtail production reported from any of the nine geographical districts into which the country was divided for the purpose of the survey. Only in the district including Minnesota, the Dakotas, Iowa, Kansas, Nebraska and Wisconsin is there evidence of a lack of orders. New England industries report a number of cancellations, but there, as elsewhere, manufacturers are well filled with calls for their products. Transportation conditions are improving everywhere and a substantial reduction in the freight-car shortage is reported in every district except in the Rocky Mountain States, in the Southwest and in the district including Kentucky, Tennessee, Alabama and Mississippi, although an improvement is noted in the latter district.

"A shortage of coal and the failure of labor to increase individual productivity appear to be the only two unfavorable aspects in the immediate industrial situation. The Rocky Mountain and Pacific States report a sufficient supply of fuel. All other sections of the country are feeling the shortage, but it is apparently least felt by the South Atlantic States.

"Although labor is costing still more than it did last year, it apparently is producing no more. Wages have advanced from 10 to 50 per cent., in the last twelve months and yet nowhere is there reported increase in productivity per man. I am not expecting that the cost of labor will fall off even in the worst of times to its prewar stage, for I believe that the real differential between directing labor and manual labor will never again be as great as it has been.

"So far as the distribution of labor is concerned, the situation nationally appears to be well equalized. A shortage of labor is found only in the Middle and South Atlantic States and this is largely of unskilled workers. In the rest of the country the demand and supply appear balanced. Only in some sections of the Middle Atlantic States is any unemployment reported and this is in certain of the skilled trades, chiefly the building and shipbuilding trades.

"Agriculture is generally recognized as the backbone of the country, and the farming situation is excellent; from no section has an unfavorable report been received. Our farmers appear everywhere to be in too happy a mood to permit at this time the cynicism, 'the farmer is always grumbling.' They are well supplied with funds from the sale of this year's crops, but they are wise in that they know that more favorable marketing conditions can be created. The recent drop in grain prices is reported to have had no effect except in the Rocky Mountain States. Farmers of Illinois, Indiana, Michigan, Wisconsin and other Central states are withholding grain.

"In the financial field, money is tight. That may mean several things: first, that the people want money badly to put into producing activities; second, that the banks attempt to get whatever the traffic will bear, shearing close to the skin; third, that there is an adequate supply of money; or fourth, that those who have money lack confidence. There are other reasons, no doubt, and among them the one that, as the dollar now buys less than heretofore, people with money wish to charge more for the service that money gives. No one can accurately say which of these causes is the most important factor, but probably all contribute to the present situation. The banks are well lent up, although money is available in the East and Central districts at from 6 to 8 per cent. interest. The Southwest, Rocky Mountain and Pacific States report the highest interest rates, averaging from 8 to 10 per cent., and in the Mountain district as high as 12 per cent."

The Continental Motors Corporation is erecting a new power-plant at its Muskegon factory to take care of increased manufacturing facilities.

$100,000,000 of Federal-aid Road Money Now Available

NEW APPROPRIATIONS ARE NEEDED

WASHINGTON, D. C., Sept. 27.—Unless federal action is taken during the current fiscal year concerning federal aid in road-building the resulting uncertainty as to the future of this work will seriously handicap the states and cause the entire road-building program to suffe a serious set-back. In discussing the need of federal action this year, Thomas H. MacDonald, chief of the Bureau of Public Roads, United States Department of Agriculture, points out that the last installments of federal aid funds, namely, $100,000,000, became available July 1, 1920. When to this is added at least an equal amount of state funds, as required by law if states are to secure federal aid, funds will be available sufficient to carry the road-construction program forward for the current year.

The last apportionment of federal funds under the existing Federal Aid Act is the largest apportionment yet certified, amounting to $100,000,000, three-quarters of which is derived from the appropriation of 1919 and $25,000,000 from the original appropriation of 1916. A deduction of $3,000,000, or 3 per cent. of the funds, will be made to provide for the expense of administering the Fedearl Aid Act by the Department of Agriculture. The balance of $97,000,000 will be divided among the states in proportion to their population, area and mileage of post roads. The allotments to the several states from the two portions of the fund are given in the accompanying table of apportionment.

Under the law the states are required to enter into formal agreements with the Secretary of Agriculture for the construction upon which this money is to be used before July 1, 1922. Any money which is not taken up before that time will be reapportioned among all the states in the same manner in which the original apportionments are made. All previous apportionments have been taken up in the time allotted, and it is not likely that the states will fail to absorb this last apportionment. To do so, however, will mean that the states must survey, plan, and let contracts for at least $200,000,000 worth of federal-aid road construction in the next two years.

If the states continue to pay more than 50 per cent. of the cost, as they have in the past, the cost of the roads constructed with this last apportionment may reach $250,000,000. In other words, it will be necessary to plan for construction at the rate of at least $100,000,000, and probably more, per year. Some appreciation of what that means may be gleaned from the fact that in 1915 the expenditure for all roads in the United States, constructed under state supervision, was only $80,000,000. Since 1915, however, state highway departments have been greatly expanded, and efficient machinery has been developed which will undoubtedly be able to handle the greater volume of work.

(Continued on page 24.)

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Rehabilitate the Railroads and Save Nation's Business

NEXT 3 YEARS REQUIRE $6,010,000,000

Transportation and not production is the need of this day and hour, according to E. A. McCarthy, traffic manager of the Tractor Bearings Division of the Hyatt Roller Bearing Company. "Four years ago big business talked 'efficiency,' then it was 'democracy and preparedness,' and now it is 'production, greater production,' when, as a matter of fact, it should be 'railroads,'" he says, and then points to the fact that merchandise lies piled up in warehouses because of the inability of the manufacturers to obtain shipping facilities. "If we must talk production, let it be in terms of locomotives, freight-, express- and passenger-cars, ties, steel rails and hundreds of other necessary supplies that will place the railroads back where they were before they made the round trip via Washington. Increased production means a greater volume of business offered to the railroads, . . . and with the railroads not in a position to handle the business now offered them it is hard to realize just what the result may be. . . . I am told that several of the large western lumber mills are shut down because they can not secure transportation equipment, the shortage amounting to about 35,000 cars. . . . We are apt to have a coal famine this winter, and only recently the water supply of Chicago was threatened due to a shortage of coal brought about by the lack of cars to move it from the mines. Kansas is still storing approximately 15,000,000 bushels of last year's grain in country elevators due to the shortage of railroad cars.

"*Railway Age* tells us," he adds, "that orders should be placed immediately for 782,400 freight-cars to be delivered over a 3-year period and that 262,000 of these are needed immediately to make up for present shortage. What does a freight-car cost?—$3,300. Yes, that's what it costs to build, but the first cost is not the only cost. To it must be added maintenance expense and car repair expense averaging $175 per car per annum. According to some late figures presented by a railroad executive, a freight-car really costs $6,000. One-half of the locomotive's time is spent in the terminal, not for repairs, but for attention and care. The cost of waste, polish, paint, oils, greases and labor runs into prodigious figures. The tremendous amount of money that is spent in the efficient handling of coal, and the maintenance expense attached to the coal dock itself, is overlooked by everyone except a few railroad officials. And, again, sand is required for the locomotives and a maintenance expense is attached to the mechanism that handles this sand. The same can be said of cinders. Each has a maintenance expense directly chargeable to it. The round-house, its ventilation, heating, floors, etc., are all there for the purpose of maintaining the locomotive and they, in turn, have a maintenance expense of their own to be considered. We could touch on boiler-washing, locomotive hoists, tools, machinery of all kinds, smoke-jacks, oil-houses, and a thousand other things too numerous to mention, all for the purpose, not of repairing the locomotive, but of maintaining it. It costs millions of dollars every year to keep track bolts tight. . . . It would be possible to go on almost indefinitely in detailing the items of maintenance expense of a railroad running into millions and millions of dollars each year.

"The future condition of our railroads is a personal matter. On it hangs the prosperity of each individual in our country. Upon the railroads devolves the duty of furnishing the outlet for all this production that business is clamoring for. The reinstatement of the railroads is the ultimate route for the reduction of the H. C. L. *Railway Age,* which is in a position to know, tells us that to put the roads in reputable condition will require the expenditure of $6,010,000,000 during the next three years. At the present rate of income and outgo these same railroads are running up an annual deficit of between four and five hundred millions without paying out one penny for expansion.

"With the railroads decreasing in their ability to serve, more lumber will linger on the Pacific Coast, more coal in the Youghiogheny and Pocahontas valleys, more grain in Kansas, more tractors and farm implements in the state of Illinois. Money that will be spent as a result of higher freight rates should be looked upon as an investment rather than as a disbursement. It would be an investment that would pay an immediate dividend, not to the stockholders and railroad officials, but to the American public—a dividend in the form of improved service, elastic arteries of transportation, and a more speedy restoration of normal conditions with lower prices as a result."

Comment on Mr. McCarthy's able presentation of the railroads' predicament will be found on the editorial page.

Maxwell Readjustment Plan

The readjustment plan of the Maxwell Motor Company, Inc., and the Chalmers Motor Corporation, which will be merged, has been agreed upon by all parties interested and provides for $15,000,000 of new capital which has been provided for through a syndicate which has agreed to purchase class "A" and "B" stocks with a right on the part of depositing stockholders of the existing companies to purchase all or any part of the new stock underwritten by the syndicate on the same terms offered to the underwriter. It is stated that no commission or other compensation will be paid to the syndicate.

Under the plan the new organization will have an authorized capital of 1,000,000 shares, of which 200,000 shares are to be class A stock, and 800,000 shares class B stock. It is estimated that there will be immediately issued 153,000 shares of class A, and 620,179 shares of class B stock. Class A stock is to have priority over B stock, both as to assets and non-cumulative dividends up to $8 a share, with a right to participate in the B stock in dividends in any year after $8 has been paid on both classes of stock.

Conditions Are Eliminating Unfit and Stabilizing Trade

FEDERAL BANK SEES REASONS FOR HOPE

NEW YORK, Sept. 24.—Much sound comment on the present business situation is contained in the latest report of the Federal Reserve Bank of New York, treating of trade conditions in the East. Reason for hopefulness is found in the increasing elimination of the commercially unfit factors in business through the restriction of wanton speculation in commodities and securities and in the growing tendency among reputable and conservative concerns to pay more attention to general business conditions in shaping their individual policies.

"Manufacturers and merchants have at last come to realize that the period of constant expansion of the past few years, based upon the constant increase in the buying power through credit expansion, should cease and that they should content themselves with a more stable and conservative volume of business. This realization has come simultaneously with the determination of consumers to combat high prices by reducing purchases. Nor is the movement confined to the United States. Credit pressure is being exerted by the responsible agencies all over the world, and the consumers' reaction against high prices is world-wide as well. In every period of rising prices a large volume of speculative dealing in commodities occurs, not only by those whose business it is in whole or in part to do so, but by many who, without experience or adequate capital, are able to engage in such dealing with excellent prospects of success. When the tide turns and prices decline, not only do speculative dealings and the carrying of unnecessary supplies tend to cease on the part of those with experience and capital, but those who have been over-trading in proportion to their capital find themselves in difficulties, and those who have neither capital nor experience are very quickly eliminated. . . Nor have these declines [in prices] brought about any such business collapse as might in times past have followed so severe a decline in many basic commodities. Except for those trades in which, through price or other uncertainties, producers have adopted a waiting attitude, production, distribution and consumption are still proceeding at a high rate. . . . That some addition to production costs is caused by the higher cost of credit is obvious, but compared to total production costs the amount added by higher interest rates is negligible, and its effect does not appear to be reflected in higher prices for the goods produced. . . ."

"In many current discussions of the probable course of the deflation which appears to have begun it is quite commonly said that wages and prices must come down together, some writers even going so far as to assert that wages must come down before commodities can decline. It may be helpful in considering this question to study the actual experience of two war periods concerning which reasonably accurate statistics are available, namely, the Napoleonic

(*Continued on page* 22.)

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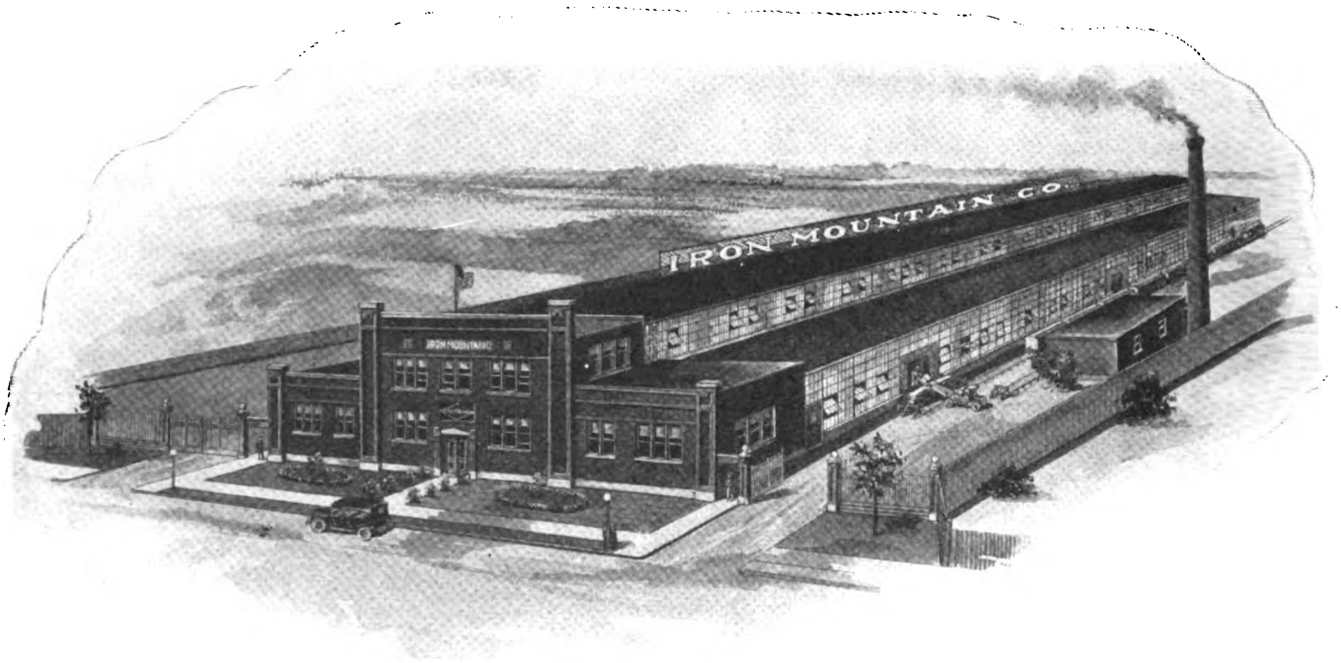

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An exponent of the most enlightened thought and practice of the motor truck industry.

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The Falling Market

ALL kinds of attempts will be made to explain the recent downward trend of prices and there will be no end of speculation as to the rapidity and extent of the decline. Practical business men will be interested chiefly in retarding the fall of the market, while the buying public will naturally hope for, and possibly wait for, the early arrival of "bottom." Dealers, being caught between the two forces, will often find themselves in pain, particularly if their stocks are large, and can not be expected to evince much interest in theoretical explanations of present conditions or in sanguine prophecies concerning the future.

There is nothing alarming in the downward trend of prices; on the contrary, it will produce a healthy state of affairs. But it must be controlled. Prices must recede just as fast as conditions in the raw material markets will allow, but their descent must be regulated so that the inevitable cost of the recessions will fall as lightly as possible on those who, even in the best situation, must bear the heaviest losses. This is the peculiar problem of the motor industries. A spectacular beginning has been made and it will be followed by other reductions, but the dealer, who will in most cases be the heaviest sufferer, must be protected to the same extent as the manufacturer, who is generally in a more favorable position to control his business. The distributing branch of this industry is the one that has made possible its wonderful growth and in it lies the capacity for stimulating market and expanding production in the future. We can not afford, therefore, to be unmindful of the necessity of maintaining its fabric and of making its burdens in these crucial times as light as may be.

As for the motor buyer, he must not expect too much in the way of price reductions or to see them come too quickly. Although general prices are more than twice their pre-war figures, the increases came upon us almost imperceptibly because they were controlled by the business judgment of producers and distributers. They must recede in the same manner, if business is to remain on a sound and healthy basis. This is particularly true of the motor industries, wherein price increases have not been in proportion to those in other lines and wherein reductions on the same scale can not, for that reason, be looked for. General prices, as shown by Bradstreet's index, have fallen 13.9 per cent since February and 4.5 per cent from August to September. There is no valid reason why motor truck and motor car prices should decline at any greater rate. It is clearly within the power and to the interest of the trade to see that they do not.

Saving Transportation

THE railroads are still, in the opinion of many, the saviours of the nation's business, in spite of their demonstrated inability to care for the rapidly growing needs of commerce. They are still regarded as the single factor on which the industrial and social life of the country depends. And it is, of course, among those who have the most intimate contact with railroad service that this unbounded faith is most current.

Only naturally, therefore, does Mr. McCarthy make the powerful plea for railroad rehabilitation which he has recently voiced and which is reprinted in part elsewhere in this issue. Most shippers will agree heartily with him in his reasoned explanation of the railroads' needs, railroad men will confirm his interesting elucidation of their maintenance costs, and all buyers will approve of his statement that the railroads are "not in a position to handle the business now offered them." The remedy, however, is not, in our opinion, to be found in the purchase of additional rolling stock or in the rehabilitation of terminals, trackage, etc., even though these are badly needed and will cost $6,010,000,000 in the next three years. Nor do we anticipate much relief from the provision of 782,400 freight-cars which, railway authorities say, should be ordered immediately, while the railroads' purchases in this direction have reached only 65,343 cars in the first eight months of this year. In ten years the full order may be completed and then it will meet only present requirements, not those of ten years hence.

The difficulties in which the railroads find themselves are not entirely due to the lack of facilities, although this will account for a great deal of their present embarrassment. The chief fault lies in the inherent defects of railroad service—its inflexibility ,its slowness, its costliness in certain branches—and these, coupled with a policy which makes the railroads reluctant to relinquish their hold on business for which they are not fitted and which they find very expensive, have produced their present chaotic condition. Far from being temporary, and far from being responsive to the remedial effects of enormous expenditures for new equipment, the railroads' situation can hardly be expected to improve, even with all the service improvements advocated by their owners, and it may grow still worse from year to year.

American business will never be free from transportation worries as long as it looks upon the railroads as the sole dependable haulage means. They serve their purpose very well and are essential to the prosperity of the nation, but they are by no means the sole support of business. If this fact were recognized by their owners and by others who share their views, the motor wagon would be placed immediately in the breach and henceforth transportation would be on an entirely different footing. We should then expect to see both types of vehicles—those on rails and those on roads—operating in their proper spheres and giving rapid, efficient and economical transport from door to door.

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Alcohol-Benzol Fuels Are Found Satisfactory Abroad

HIGHER EFFICIENCY, EASIER STARTING

Interesting conclusions, based on prolonged experiments with alcohol-benzol fuel mixtures under service conditions, have been announced by the London General Omnibus Company. The Alcohol Motor Fuel Committee, which was formed under the auspices of the Petroleum Executive during the war, supplied the company with the necessary quantities of power alcohol and authorized the tests.

Most of the experiments were conducted with a 50 per cent. mixture of alcohol and benzol. With the ordinary standard 'bus engine much trouble was experienced, but with an engine, in which the compression had been raised to about 120 pounds per square inch, most of the troubles disappeared entirely and marked advantages over gasolene became noticeable. The thermal efficiency was better than with gasolene, though the mileage per gallon was lower. The engine sustained a higher torque at low speeds. The ease of starting, the acceleration and flexibility, and the pulling power at low engine speeds were very noticeable. There was no "knocking" in the engine when climbing hills at low speeds, owing to the slow combustion of the fuel and the absence of any tendency to pre-ignition.

Experiments with various mixtures showed that the greater the percentage of alcohol in the mixture the higher is the possible thermal efficiency for the same compression. The greater the percentage of alcohol the higher can the compression be raised with a consequent rise in the thermal efficiency. With high compression the ill-effects of valve pockets are more noticeable at small throttle openings than with low compression. Thus, the use of an engine without pockets and with overhead valves, long stroke and high compression is recommended if a mixture with a large percentage of alcohol is to be used. The main trouble experienced was due to the action of the fuel on various metals. When the mixture was used in an ordinary 'bus engine with compression suitable for gasolene, frequent stoppages were experienced due to choking of the carbureter jets and heavy deposits formed in the induction pipes. The choking of the jets was traced to particles suspended in the fuel, which proved to be rust and metallic substances. The ordinary filtering process did not suffice. Further tests showed that a new fuel tank, after a month's running, became porous and corroded. The corrosive effects of the fuel were then examined. It was found that iron and copper were both badly affected; brass, zinc, aluminum, and tin were slightly attacked. No action took place on lead. It is, then, important that the fuel tanks and pipes should be lead-coated. The carbureter may still be of brass, because the fuel effects on that metal are practically negligible.

The heavy deposits formed in the induction pipes were found to be carbon of a gummy, oily nature, not unlike the deposits sometimes found in combustion spaces and in exhaust pipes. Subsequent experiments showed that they were in part due to the want of higher compression. With engines in which the compression had been raised to 123 pounds per square inch it was found, after six weeks' service, that inlet valve pockets and the neighborhood of the valve heads were coated with a thick, tarry substance partially choking the passages. The exhaust valves were clean and there was not much deposit on the pistons. Thus, it seems advisable, when using the mixture, to examine the valves and induction pipes about once a month, as otherwise efficiency and power might fall away.

During the experiments many different compressions were tried. It was found that the mixture gave a much flatter power curve than gasolene whether the compression was 114 pounds or 123 pounds per square inch. The latter gave the flatter curve, which indicated that this compression was suitable for 'bus work, in which the maintenance of horse-power at low engine speeds is particularly important. The lower compression, however, gave somewhat better horse-power at higher engine speeds.

The tests showed the slightest superiority of gasolene in respect of miles per gallon. During the early stages, in comparatively warm weather, the average for the mixture was 7 miles per gallon, the gasolene 'buses on the same route showing an average of 7.5 miles per gallon. During the winter months, the average with the mixture was 6.05 miles per gallon, and with gasolene the fleet average was 7.19 miles per gallon. Despite this apparent advantage of gasolene, the thermal efficiency was better with the mixture, which contains fewer heat units per gallon. In practice, however, purchases are made by the gallon and not by the number of heat units contained. It is, therefore, clear that to show economic superiority, the mixture must be obtained at a price somewhat lower than that of gasolene.

Altogether, the results are regarded as very encouraging. The running of the engines was good. The power at low speed was particularly good, and no difficulties were experienced in starting up from cold. It is evident that, if power alcohol could be obtained at a price some 20 per cent. lower than that of gasolene, and if sufficient benzol were available at a price not higher than that of gasolene, the fuel should appeal strongly to any large user of motor trucks. The main doubt is less concerned with the price at which alcohol can be got, provided that its distribution and transport are facilitated, than with the question of benzol supplies, and for this reason it is anticipated that future experiments will be conducted mainly with alcohol mixtures in which benzol does not participate. Alcohol-ether mixtures will undoubtedly be tried, and there are other very promising possibilities.

Conditions Eliminating Unfit

(*Continued from page 19.*)

war period in England and the Civil War period here. . . . After the Napoleonic wars prices in England declined, at first rapidly and then steadily, over a long period of years, while wages receded not only more gradually but much less. During the 13 years following the Civil War our prices in currency dropped rapidly, while for seven years wages actually rose. While unquestionably in the years following the European war the law of supply and demand will operate with respect to labor as well as to commodities, [the records cited] indicate that in labor the law operates less promptly and freely. It is, of course, impossible to predict the future, but two things should be remembered at this time: labor is now much better organized to resist wage reductions than it was in either 1815 or 1865, and since 1914 the United States has received about 3,000,000 less immigrants than would normally have entered the country. . . ."

"While month to month increases in the volume of freight handled by most roads are now rather small and are accomplished for the most part rather by more efficient handling of the cars available than by the use of additional labor or equipment, the increases over last year are being well maintained. Individual roads have reported increases of 10 to 15 per cent. each month over the same periods of last year. For the entire country it is reported that 4,351,363 cars of commercial freight were loaded in the five weeks ended July 21 as compared with 4,273,343 cars in the same period of last year, or an increase of about 2 per cent."

Transport Body Formed by Hoosier Shippers Is Ready

RATES AND TERMINAL ARE ESTABLISHED

INDIANAPOLIS, IND., Sept. 27.—The recent increases in freight rates put into effect by the railroads seem to spell opportunity for devotees of motor truck transportation, and the Indiana Highway Transport & Terminal Association, for one, has not been slow to take advantage of the situation. The association, recently incorporated at Indianapolis, has leased a big warehouse in the Hoosier capital for terminal purposes, and plans to institute in the immediate future a motor truck system operating on schedule between Indianapolis and cities within a radius of 60 miles of the metropolis.

The plans of the association are extremely interesting, involving a good many innovations which will provide food for thought for motor truck manufacturers and dealers and possibly work a revolution in the types of bodies in use for work of this kind. The association proposes, for instance, to standardize all motor truck bodies. They will be demountable, so that they may be transferred quickly in case of need from one chassis to another. This means that a serious breakdown will not delay the shipment to any great extent. In such an emergency, another chassis will be rushed to the scene of the accident, and the body with its load quickly transferred and sent on its way.

The same idea is to be utilized in connection with the trailers which will be

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extensively used by the association. It is thought that a little care in the loading of trucks and trailers will increase the efficiency of the motor trucks to a large extent. A truck destined for Kokomo, for instance, can pull a trailer loaded with goods for an intermediate point, drop the trailer and load off at that place without delay, and proceed on its way, leaving distribution of the trailer's load in the hands of the local transferman.

The Indiana Highway Transport & Terminal Association is largely the result of the Return Loads Bureau put into operation at Indianapolis during the war. By the same token the new association will feature the return loads idea. It is hoped to develop a profitable business in the way of farm products for the return trips of trucks which leave Indianapolis. It has been found in the past that shipment of farm products by truck, however, left something to be desired. The ordinary type of truck often delivered its load of tomatoes or apples in poor condition. Plans are being perfected, therefore, to make the motor truck a better instrument for the movement of perishable freight of all kinds. Refrigerator-cars will be utilized in hot weather, and during the winter months trucks will be kept at a uniform high temperature to prevent freezing of the food products they carry.

The association is overlooking no advertising point while its plans are being matured. It realized that the railroads of the country have profited by some of the picturesque names applied to them. The lines of the Indiana Highway Transport & Terminal Association will be just as easy to identify. They will be known as the Sunbeam Lines, and this appellation is already becoming popular with shippers of Indianapolis who have been made acquainted with the association's plans. The title has distinct advertising possibilities which probably will be taken advantage of in the near future.

Eight routes will constitute the immediate itinerary of the association, and weekly trips will be made until business develops to the pitch where daily journeys are warranted. It is believed that these eight routes will require about 50 motor trucks in six months or less. The network of the lines will extend to Terre Haute on the west, Richmond on the east, Bloomington via Martinsville on the southwest tapping the stone fields, and Columbus and Greensburg on the south by way of Franklin and Shelbyville. Two northwestern lines will be operated, one serving Frankfort and Lafayette and another taking care of Crawfordsville.

One factor which has prevented motor truck lines from attaining their greatest efficiency in the past has been the difficulty of getting prompt repairs. It is argued that if a railroad, for instance, depended on independent organizations for repairs, its trains would seldom operate on schedule. In the same way the operation of motor trucks as been handicapped in the past. The Sunbeam Lines propose to maintain their own garages and repair facilities at Indianapolis. A thoroughgoing inspection system, which will guarantee that when a truck starts out on the road it is ready for the road, will be instituted at the same time, so that the schedule will mean something to shippers, instead of being merely the starting point for a guess.

Already much interest is being shown by shippers in the plans of the Sunbeam Lines. While the freight rate increases of the railroads may have something to do with this, the advances do not explain the situation altogether. The Sunbeam Lines, when they begin operations on October 1, will tap territory which has been neglected by the railroads and shipping from these points has been handicapped accordingly. Manufacturers and farmers in these sections are naturally much interested by the probability that they will be able to reach Indianapolis and other markets even more quickly than if they shipped by rail.

The association's first big step was to acquire the abandoned C. I. & W. freight-depot, six blocks from the commercial center of Indianapolis. This building will serve as a central station and clearing house for shipments to and from the city.

The rates established by the association are high enough to insure a good profit to the truck operator. The failure of the motor express routes generally up to this time, it was pointed out, lay in the adoption of rates too low to insure a profit to the motor express owner. Where this was done, the route did not prove a financial success and was abandoned and the people along that route did not enjoy the service that could be furnished.

Some shippers claim the new rates are too high in proportion to the steam road schedules. The rural motor express men admit this, but contend that, with better organization generally, with return loads reducing by nearly one-half the cost of transportation, these rates can be reduced until motor transport is the cheapest in every way. However, some shippers acknowledge that, considering the improved service, the rates are fair.

The new rates for motor truck service to and from Indianapolis follow:

Distance.	Rate per cwt.-mile.	Terminal charges.
1 to 10 miles.....	3 cents.	12 cents.
10 to 25 miles.....	2 cents.	12 cents.
25 to 50 miles.....	1¾ cents.	12 cents.
Over 50 miles	1½ cents.	12 cents.

Household goods and articles classified higher than first-class in the official steam road classification are to be charged for at double the rates named.

Radiating from the central station will be all the regularly scheduled rural motor express routes running out of Indianapolis. New scheduled routes to Indianapolis from points within a radius of 50 miles will be developed. Similar motor truck freight-stations, coördinating with the one in Indianapolis, will be developed in large centers.

Carefully kept records will be maintained on tonnage hauled, unit used, distance covered, operating costs, road conditions, distribution problems and commodities classified for the benefit of all highway interests seeking such information, particularly for other associations trying to solve the problems connected with highway transport.

Goods shipped will be insured for the protection of shippers and receivers, the rate being 5 cents per $100 of value, which is included in the handling charges.

Because of the limited steam and electric equipment and terminal facilities available and the attendant delays, congestion and industrial losses, it is obvious that short hauls can be profitably handled by motor truck. In Indianapolis this industrial loss has been estimated at more than $200,000 annually at the electric stations alone. In this city from 3,500 to 5,000 freight-cars are constantly idle because of limited terminal facilities, and demurrage charges will reach more than $50,000 per year.

Roy D. Adams, Indianapolis, is president of the association; Lewis Taylor, secretary of the Indiana Federation of Farmers, is vice-president; Tom Snyder, secretary of the Indiana Transfer & Warehousemen's Association, is secretary; and C. W. Abrahams, Indianapolis, is treasurer. The board of directors, representing all sorts of interests connected with motor truck transportation includes Frank Shellhouse, Indianapolis, chairman board of directors, Indianapolis Transfer Association; W. S. Frye, chairman transfer division, Chamber of Commerce, Indianapolis; H. H. Chambers and B. F. Bartlett, vice-presidents Indiana Transfer & Warehousemen's Association; W. G. Kreis, president Indianapolis Transfer Association; Earl Armstrong, Indianapolis; Prof. C. C. Albright, Purdue University, Lafayette; R. C. Yeoman, Indiana secretary American Association of Engineers; I. N. Worth, Indianapolis; Fred Wilkening and W. O. Moore, wholesale trade division, Chamber of Commerce, Indianapolis; N. H. Cartinhour, Automobile Trade Association, Indianapolis; T. W. Hayes, branch manager Goodyear Tire & Rubber Company, Indianapolis; H. H. Muench, Indianapolis.

Makers of Dunlop Tires in England Have Established American Plant

The Dunlop Tire & Rubber Company, of England, has established a branch factory at Buffalo, New York, where pneumatic cord tires for motor trucks and passenger cars and solid tires for power wagons will be manufactured, following the methods and designs developed by the company in its British experience of more than 20 years. A thoroughly modern plant is rapidly nearing completion on a site of 214 acres on River Road, a half-mile north of the city line. Nine one-story monitor type factory buildings of steel and concrete construction are being erected and a 4-story warehouse, providing a total floor space of 30 acres. Electricity will supply the chief source of power for the plant's operations. The lay-out has been arranged to allow for doubling the plant's capacity by the addition of duplicate buildings, all being connected by covered roadways for the passage of workmen, materials and finished product. The estimated capacity of the factory as contemplated is 12,500 tires daily, all of the types mentioned, and production will begin early in 1921. The company has purchased a textile mill at Utica, New York, where the cord fabric to be used in American-made Dunlop tires will be produced.

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$100,000,000 of Federal Aid

(*Continued from page* 17.)

The states have had four years in which to prepare for the expenditure of the large funds now available. They expect to be able to handle them. What is of greater concern to them at this time is the condition which may result if federal appropriations are permitted to lapse. The highway departments should know at least a year in advance what funds are to be available in order that plans may be made for future construction. Unless, therefore, further federal action is taken in the coming year, the states will be left in doubt as to the future policy of the government, and the amount of money they must be prepared to expend. Such a contingency would involve a serious setback to the progress of road construction, and should be avoided by early congressional action.

FEDERAL AID FUNDS FOR ROAD-BUILDING WHICH BECAME AVAILABLE TO THE STATES JULY 1, 1920.

State.	From 1916 Appropriation	From 1919 Appropriation
Alabama	$ 526,220.88	$ 1,578,662.63
Arizona	343,411.04	1,030,233.12
Arkansas	421,294.52	1,263,883.57
California	763,668.88	2,291,006.63
Colorado	438,939.79	1,316,819.38
Connecticut	153,337.36	460,012.07
Delaware	40,668.70	122,006.11
Florida	286,861.98	860,585.94
Georgia	674,287.74	2,022,863.22
Idaho	306,512.48	919,537.45
Illinois	1,091,266.98	3,273,000.93
Indiana	671,763.32	2,015,289.95
Iowa	720,332.18	2,160,996.56
Kansas	717,811.16	2,153,433.46
Kentucky	487,938.86	1,463,816.57
Louisiana	340,557.78	1,021,673.35
Maine	240,057.54	720,172.62
Maryland	216,749.65	630,248.96
Massachusetts	368,197.21	1,104,591.62
Michigan	722,916.99	2,168,750.98
Minnesota	710,522.33	2,131,567.00
Mississippi	451,889.29	1,355,667.88
Missouri	846,974.96	2,540,924.70
Montana	501,747.53	1,505,242.60
Nebraska	533,435.50	1,600,306.48
Nevada	319,086.11	957,258.32
New Hampshire	103,709.73	311,129.20
New Jersey	296,889.11	890,667.34
New Mexico	399,616.96	1,198,850.89
New York	1,242,973.28	3,728,919.83
North Carolina	569,763.45	1,709,290.35
North Dakota	384,056.95	1,152,170.85
Ohio	926,561.70	2,779,685.11
Oklahoma	575,619.58	1,726,858.75
Oregon	394,038.01	1,182,114.02
Pennsylvania	1,147,986.51	3,443,959.54
Rhode Island	58,314.22	174,942.65
South Carolina	359,004.76	1,077,014.28
South Dakota	403,944.86	1,211,834.58
Tennessee	565,478.48	1,696,435.42
Texas	1,465,399.62	4,396,198.84
Utah	282,393.91	847,181.75
Vermont	112,519.27	337,557.82
Virginia	494,418.46	1,483,255.37
Washington	361,156.95	1,083,470.84
West Virginia	265,038.19	795,114.58
Wisconsin	636,236.34	1,908,709.01
Wyoming	308,428.96	925,286.88
Total	$24,250,000.00	$72,750,000.00

Vogler Leaves Ace

After fifteen months spent in organizing sales, service and advertising of Ace motor trucks, H. J. Vogler has resigned to take a much deserved rest. Since Vogler joined the American Motor Truck Company Ace trucks are being distributed by about 75 dealers in practically every state in the Union and most of the European and Asiatic countries.

The new companies have met with a great success in such a short time. Vogler has been in the industry for 11 years, previously having been eastern manager for Maxwell Motor Company, and wholesale manager for Willys-Overland with headquarters in New York. He has not divulged his future plans, but is making headquarters at the Union League, Philadelphia.

Ford Prices Stir Trade

(*Continued from page* 17.)

down all over the country. Labor is being thrown out of employment, yet the cost of living has seen very little reduction. Our country is rich beyond measure in natural resources, rich in all the material things that go to make a nation great, and yet its progress is being held practically at a standstill because of the greed of the profiteers."

Mr. Ford's move toward lower price levels has already been followed by the Franklin and Studebaker companies, the former professing endorsement of his stated reasons and applying decreases ranging from 17 to 21 per cent. Reductions of from 18 to 25 per cent have been announced by the Stewart Motor Corporation, which is the first of the exclusive truck makers to evince any desire to adopt a similar policy. It is reported that none of the concerns named will reduce the wages of their employees.

The action of the Ford company is variously interpreted in different quarters, some believing that he evidently expects that lower prices for steel, tires and parts will prevail before long in view of his instructions to his principal source of tire supplies to suspend deliveries indefinitely and his reduction on deliveries of steel. On the other hand the *Boston News Bureau* asks, "Has Mr. Ford been a 'profiteer,' that he can reduce the price of his chassis from $525 to $360 with no reduction in wages or steel? The evidence would seem to be clear that Mr. Ford, having reached an output of above 100,000 cars a month, has determined to set his cars going without regard to cost. Indeed it may have been found cheaper for Mr. Ford to move his entire output at cut prices than to manufacture and store or to reduce his output. His situation is exactly that of the American Woolen Company. President Wood believes that low-priced goods can be made only by running full forces. With no reduction in labor or steel, this average cut of 25 per cent means that Mr. Ford has for the time being thrown profits to the wind, and, either by inclination or necessity to maintain his large outfit, has sold labor, rubber and steel short and can recover a part of his profits only by a decline in these commodities. While Mr. Ford was a leader in advancing labor prices, he has never given the extreme war advance, and he cannot cut his labor prices to any great extent at the present time. It must be, therefore, that Mr. Ford is banking for the return of his profits upon a reduction in steel prices or the labor of the people who furnish him many of his parts."

The trade generally exhibits no sympathy with the Ford policy, most factors contending that there can be no reductions until the costs of manufacture recede. "I see nothing in present conditions to warrant this announcement by Mr. Ford," said D. E. Bates, secretary and treasurer of the Reo Motor Car Company, while Edward Verlinden, president of the Olds Motor Works, went even further when he stated that "present costs make such a step appear like folly, unless Ford has been one of the worst offenders in the profiteer class." C. W. Nash, president of the Nash Motors Company, said there would be no reduction in Nash prices, adding that "much depends upon the bankers." President A. R. Erskine of the Studebaker Corporation said, "We believe the recent and rapid decline in the prices of many commodities and raw materials presages lower prices for those not yet reduced, and, of course, for manufactured products of all kinds, which is highly desirable if production is to be sustained and unemployment avoided."

"The action of Mr. Ford simply represents the eccentric ideas that have made him famous," said one banker. "There will be no general price-cutting as drastic as that just inaugurated by him. Some recession of prices would be a great stimulant to business. It is expected by economists and would be welcomed by bankers. The present recession in prices is the result of wrong thinking of two years ago. Immediately following the armistice business men were busy predicting a slump in prices and refused to buy. In the early months of 1919 we had slack times because merchants refused to buy what they needed. Last summer they found their shelves bare and there was a rush to place orders. The demand far exceeded the supply and the inevitable happened. Prices shot upward; in fact, they became so unreasonably high that people again refused to buy. We had a late spring and a panic in Japan. These things combined to fill the air with pessimism and the frightened merchant again began to reduce prices and to cut his purchases to the bone. The trouble with this policy is that stocks are again running low and may cause another runaway market to the injury of the general public."

Another banker thought that it might be twenty years before general prices reached the pre-war level. He said:

"There are great opposing forces at work in the world's market to-day. One is working for higher prices and one for lower. The force working for lower prices is a slump in business. When demand falls off prices tend to fall to lower levels. Then there is the credit situation. Money has been so hard to get that a great deal of work has been postponed. That in turn increases the supply of labor and is making for an easy labor situation. That is healthy. On the other hand, should prices recede materially it will be posible to do the same volume of business with less credit, thus easing money conditions. With money conditions easier, the railroads will be in the market for large loans to buy equipment, etc." A third banker expressed the opinion that there would be no general recession in prices until labor costs are reduced. It seems to be generally agreed among authorities that business will continue good for several years, regardless of whether the course of prices should be upward or downward.

Roy Davey, formerly general sales manager of the Bethlehem Motors Corporation who resigned when H. F. Harris became president of that concern, has returned to the organization in his former capacity.

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Truck Operation to Be Analyzed

S. A. E. Committee Presents Tentative Scheme for Intelligent Study of Operating Problems with the View of Standardizing Thought and Practices

IMPORTANT developments in the work of studying and analyzing motor truck operation are foreshadowed in the proposed program of the Society of Automotive Engineers' Committee on the Science of Truck Operation, as announced by its chairman, Francis W. Davis, engineer of the Pierce-Arrow company. The subject with which the committee will be exclusively concerned has been tentatively divided into five parts and, under the proposed plan of work, these will be assigned to its various members. Thus, Comparison of Modes of Transportation will be investigated by F. Van Z. Lane, formerly chief transportation engineer of the Packard company; Selection of Equipment has been given to Charles M. Manly, consulting engineer; Service Stations has been allotted to Ernest E. Wemp, chief engineer of Graham Brothers; Principles of Operation will be studied by Merrill C. Horine, engineer of the International Motor Company; and Cost of Operation, for which Mr. Davis will himself be responsible.

In presenting the proposed procedure, Mr. Davis remarked:

"No individual to-day has to argue the important place of transportation of every kind. It is recognized that it is probably the most important phase of the activities throughout the globe. The general progress of civilization has really followed the progress in development of transportation. The phase in which we are particularly interested is the matter of developing highway transportation, and for a starter we have designated truck operation. The extent to which transportation is carried over the highways does not require any statement, for it is by far the most important of all the branches.

"In the development of highway transportation, motor truck transportation in particular, we have done much toward developing the mechanical, the engineering and the technical sides. After we have built the vehicles, we place them in the hands of the users, and they go out and operate them the best they can. It is really fortunate that they have been so successful, because they received very little assistance, have had very little guidance, have had very little expert assistance and encouragement from the engineers who have had to do with design and construction. It has reached the point now where there is felt a great necessity for obtaining trained men, not only men who are able to assist in the production, design, manufacture and so forth of these vehicles, but also who will have to do with the operation, the proper coördination of the vehicle with the business that it goes into; furthermore, the study of the relation between the motor truck and the highway, not so much from a mechanical standpoint as from an economic standpoint.

"Along with that is recognized the necessity for carrying on some very extensive research, not only on the character of pavements, the base construction, drainage in relation to highways, but also the relation between the motor truck and the highway considered from an operation standpoint, the question such as the effect of different kinds of pavement on the cost of operation, the effect of the grade on the cost of operation, and various other items of that kind. To solve those problems, a conference was held at Ann Arbor some time ago, and out of that a further conference in Washington, at which representatives of the industry, the educational institutions and the users got together and discussed the actual needs in numbers and in scope of training necessary for the men to undertake this work, also the necessity for carrying out certain lines of research to get the best possible results. There was recognized and stated in actual numbers the men and the particular needs of the next five years in the industry and for the users. To get those trained men, it is very necessary to have the personnel and the material to train them. It is very well to say that we will train hundreds of thousands of men and that those men will be available in the course of a year or two years or five years, but we must have the material and we must have the personnel to give that training. The obtaining of the personnel is a very important problem, and efforts are being exerted in that direction right now to obtain men who are qualified to take the chairs of transportation in some of the universities and carry through this training program."

The committee is a tentative group that will start to work on this subject, Mr. Davis explained. A meeting was called some weeks ago, and at that time the range and scope of the subject were discussed of building a real science out of this truck operation question. Five headings were suggested as more or less covering the general subject. These headings have been amplified somewhat and are given together with the subheadings under those main divisions in the accompanying outline:

COMPARISON OF MODES OF TRANSPORTATION.

Horse:
- Limiting daily mileage.
- Loading and unloading time.
- Costs.

Railroad:
- Fixed trackage.
- Relation between loading time and running time.
- Short hauls.
- Less than carload shipments.
- Freight rates.
- Terminals.

Waterway:
- Route limitations.
- Length of haul.
- Relation between loading time and running time.
- Rates.
- Docks.

Motor Trucks:
- Flexibility.
- Relation between loading time and running time.
- Short and long hauls.
- Delivery advantages.
- Costs.

SELECTION OF EQUIPMENT.

Type of Units:
- Trucks—
  - (a) Solid tires.
  - (b) Pneumatic tires.
- Tractors—
  - (a) Fifth-wheel.
  - (b) Draw-head.

Size and Number of Units:
- Uniform.
- Combinations.

Auxiliary Equipment:
- Bodies—
  - (a) Plain.
  - (b) Dump.
  - (c) Demountable.
- Loading and unloading devices—
  - (a) Winches.
  - (b) Cranes.
  - (c) Roller conveyers.
  - (d) Unit packages.

SERVICE STATIONS.

Locataion:
- Selection of site.
- Type of building.
- Consideration of public garage.

Size:
- Single building.
- More than one building.
- In combination with public garage.

Equipment:
- Shop facilities.
- Gasolene and oil storage.
- Elevators.
- Washing facilities.

Personnel:
- Administrative.
- Mechanical force.
- Other labor.
- Relation between size of fleet and other headings in this group.

Inspection and Maintenance:
- Inspection systems.
- Maintenance systems.
- Relation between the size of fleet and other headings in this group.

PRINCIPLES OF OPERATION.

Loading and Unloading:
- Relation to total time of operation.
- Relation to tonnage hauled.
- Effect on short and long hauls.
- Effect on cost of operation.
- Relation to cost of auxiliary loading and unloading equipment.

Routing:
- Advantages of direct routes.
- The zone system of distribution.
- The use of substations.
- Return loads.

Cost Records:
- Their value.
- Necessary data.
- Form systems.

Drivers and Helpers:
- Qualifications and training.
- Effect of drivers on tonnage handled.
- Effect of drivers on cost of operation.

Time Out of Commission:
- Cost of replacement parts and labor.
- Money loss in failure to deliver goods.

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Money loss in tying up of other operations.

Roads:
Surfaces.
Grades.
Curves.
Bridges.

Truck Abuse:
Overloading.
Overspeeding.
Lack of inspection.
Deferred maintenance.

Legislation:
Limiting speeds, weights and dimensions.
Lights, mirrors and signalling devices.
Federal and state considerations.

COST OF OPERATION.

Investment:
Outright purchase.
Deferred payment.

Based on Time (fixed charge):
Administrative expense.
Interest.
Insurance.
Garage.
Drivers and helpers.
Taxes.

Based on Mileage (variable expense):
Tires.
Fuel or current.
Lubrication.
Inspection and maintenance.
Depreciation.

Comparisons:
Cost per ton.
Cost per mile.
Cost per day.
Cost per unit-mile.
Other combinations.
Truck efficiency.

Charge Rates:
Time.
Mileage.
Tonnage.
Combinations.
Contract hauling.

Earning Power:
Difference between truck costs and earning power.
Relation to size of fleet.
Effect of variations in charge rates.
Effect of variations in cost items.
Effect of variations in loading and unloading time.
Effect of variations in length of haul.
Effect of variation in loads carried.

Bonuses:
Ratio of labor cost to total cost.
Items under control of driver.
Methods of applying bonus.

Recording Instruments:
Justification.
Items to be determined.
Analysis of records.

The program presented is not offered as a finished study, but as a suggested outline for preliminary thought and work. It is expected that many more subjects for consideration and investigation will be unfolded as the committee's work progresses.

Resumption of Normal Business

(*Continued from page 17.*)

potatoes, more rice (about the largest crop on record), more sugar (both cane and beet), and especially a hay crop of such proportions as should have a marked effect in reducing the cost of livestock, and of dairy and poultry products.

"The problems which now confront the farmer are what the future holds for him in the way of prices for his products and whether adequate transportation will be forthcoming to move harvest yields to market. Upon the solution of this latter problem hangs the volume of business in all agricultural sections, which means by far the greater part of the country. From every state and every section comes the complaint of the lack of cars as the greatest of all handicaps to the transaction of business, and one of the moving causes of the continuance of high prices.

"While ranges and pastures, save here and there, are generally in good shape, the livestock industry is not in a prosperous condition on the whole. The general statement is that the feed is much too high in proportion to the price of livestock, especially that feeders (those who buy feed and do not raise it for their livestock) are operating at a loss. There is a general belief that there are fewer cattle and hogs in the country than at this time last year, but probably as many sheep. Experience has shown, however, that these estimates are necessarily not very dependable at times. In some census years they have been very far from the mark on the basis of taking census returns as the correct estimates.

"The poultry and dairy industries are steadily increasing in all sections, despite high prices of feed. In some sections farmers have largely ceased home dairy industry because of the great demand from large cities for whole milk, that is, milk from which the cream has not been separated. In nearly every part of the south the blooded cow of high degree and lengthy pedigree is a familiar sight where a generation ago was only to be found the solitary, tick-infested scrub. In some of the northwestern states it will take time to replace the herds which were so badly depleted by the drought and heat of last year. The wool market is very dull and prices are low."

New York Will Have Large Truck Show If Dealers' Plans Succeed

A large motor truck show for New York City will probably develop out of the plans of the Automobile Dealers' Association and the Motor Truck Association of America, which are reputed to be considering joining hands for concerted effort in that direction. The latter organization has in mind an exhibition to be held in the Twelfth Regiment Armory at Columbus Avenue and Sixtieth Street, wherein space can be had at rentals but a fraction of those charged in Madison Square Garden. Theodore D. Pratt, secretary of the Motor Truck Association, has already formed the Truck & Tractor Exhibition Company to promote the venture and has received the pledged support of nearly all the distributers handling well-known trucks in the Metropolitan District. In fact, enough contracts are said to have been signed and enough signatures pledged to insure the financial success of the show, 55 of the supporters being members of the association, which includes about half of the potential trunk buying capacity of the city.

The dealers' association has been working on show plans ever since the announcement that the National Automobile Chamber of Commerce would not hold an exhibit next year, but its plans have not progressed as far or as rapidly as those of Pratt and the M. T. A. The tentative location is the 69th Regiment Armory, which is not so conveniently situated as the other armory. One week has been chosen as the period of each show and the opening date January 8 in the case of the A. D. A. plans and January 3 in the M. T. A. scheme. It is thought more than likely that the two efforts will be combined, and that the resulting exhibition will be much larger and more satisfactory than might be expected from the independent work of the two organizations.

Act Would Require Dealers to Carry Stocks of Repair Parts

A storm of protest has followed the threatened introduction into the next general assembly of Arkansas of an act which would require "vendors of motor vehicles to establish branch houses or stations for the supply and distribution of parts." The principal provisions of the proposed act are embodied in the following paragraphs:

It shall be unlawful for any person, firm or corporation to sell, or offer for sale, any automobile, tractor or motor vehicle of any kind, in this state, unless and until such persons, firm or corporation, shall have established in this state one or more branch houses or stations, at which parts for any such automobile, tractor or motor vehicle are kept in ample supply and quantity to supply the demands for any and all such parts by patrons within this state.

Before any person, firm or corporation shall be permitted to sell or offer for sale, either directly or indirectly, any car, automobile, tractor, or motor vehicle, it shall file an affidavit with the secretary of state, to the effect that it has established one or more branches or stations in this state at which any and all parts which may become necessary for the renewal or repair of such car, automobile, tractor or motor vehicle, or any part therof, may be had and shall also designate the place or firm carrying such parts, and in addition thereto shall file a bond in the sum of $10,000 to be approved by the secretary of state to the effect that it will pay and discharge any and all damages arising out of delays or otherwise which may result from the failure of any such person, firm, or corporation to fully comply with provisions of this act.

This act being for the immediate preservation of the public health, peace and safety, an emergency is hereby declared, and this act shall be in full force and effect from and after its final passage and approval.

Trucks at N. Y. Electrical Show

Electric motor trucks, industrial trucks and tractors, and passenger cars will be exhibited at the coming New York Electrical Exposition in the Grand Central Palace, New York City, October 6 to 16. Motor trucks will be shown by the Commercial Truck Company of America, the Landsen Company, the Oneida Motor Truck Company, the Steinmetz Electric Motor Car Corporation, the Walker Vehicle Company, and the Ward Motor Vehicle Company. Industrial trucks and tractors will be exhibited by the Baker R. & L. Company, the Lakewood Engineering Company, the Lansden Company, and the Steinmetz concern. The last named is a newcomer in the electric vehicle field. The exhibits will be displayed on the 47th Street side of the second floor of the Palace, and demonstrations of industrial vehicles will be given on the third floor.

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Laws on Truck and Trailer Use

Digest of Present State Statutes Regulating Weights and Dimensions of Motor Trucks and Number of Trailers Shows Striking Lack of Uniformity

THE work of the Motor Vehicle Conference Committee—a body appointed through the joint efforts of the American Automobile Association, the Motor & Accessory Manufacturers' Association, the National Automobile Chamber of Commerce, the National Automobile Dealers' Association, the Rubber Association of America and the Trailer Manufacturers' Association of America—has led it into an investigation of existing and proposed laws affecting the operation of motor vehicles with the results disclosed in recent issues of this journal. Its latest report deals with the size and weight restrictions imposed by the various states, reference being made in all cases to laws in effect on July 1 of this year.

A special committee composed of representatives from the American Association of State Highway Officials, the National Automobile Chamber of Commerce, the American Automobile Association and the Highways Industries Association drafted a proposed uniform vehicle law in which are embodied suggestions regarding the sizes and weights of vehicles using the highways. The proposed restrictions provide for a maximum overall width of vehicle of 96 inches, a maximum overall height of 12 feet 6 inches, a maximum overall length for single vehicles of 30 feet and for combinations of vehicles of 85 feet; a maximum gross weight of 14 tons, distributed so that not more than 22,400 pounds shall rest on any one axle nor more than 800 pounds on each inch of tire width as measured between the flanges of the rim. No restrictions would be placed on the number of trailers that might be hauled by a truck or tractor as long as the restriction on the length of road trains were not exceeded, and officials would be allowed to issue special permits for the operation of prohibited vehicles over highways under their control. It is contended in behalf of the proposals that they are sufficiently liberal to allow owners to take advantage of the economies which result from the use of larger haulage units, yet sufficiently low to safeguard traffic and to protect highway surfaces and foundations from destruction.

A digest of existing state laws governing the size and weight of motor vehicles and the number of trailers is given in the following paragraphs. Where no state laws have been enacted covering these points, local ordinances may govern, but generally these are not allowed to conflict with state laws where the latter touch the same subject matter. All dimensions and weights are maxima, and all tons are of 2,000 pounds. Size restrictions are shown first, weight restrictions next, trailer restrictions third and permit provisions last:

Alabama.—No state law.

Arizona.—No state law.

Arkansas.—No state law.

California.—(1) Outside width of track 112 inches; outside width of bed of vehicle and load 102 inches.—(2) Gross weight of 4-wheeled vehicle 15 tons; gross weight of 6-wheeled outfit, having its three axles at least 96 inches apart, 20 tons; weight per inch of tire width 600 pounds with metal tires, 800 pounds with other than metal tires. The State Department of Engineering may reduce these limits on bridges, viaducts, etc. —(3) Number of trailers 2.—(4) On written application State Department of Engineering may grant permits to operate heavier or wider loads or more than 2 trailers or to increase the permissible wheel weights.

Colorado.—No state law.

Connecticut.—(1) Overall width 114 inches. —(2) Gross weight 12½ tons; weight per inch of tire width 500 pounds on metal tires, 700 pounds on other tires. State Highway Commissioner may restrict use of commercial motor vehicles of over 4-ton capacity on trunk lines or state-aid highways.—(3) Number of trailers not limited.—(4) On written application State Highway Commissioner, or other authority having charge of the repair or maintenance of any highway or bridge, may grant permits allowing operation of prohibited vehicles.

Delaware.—(1) Width of vehicle 96 inches, height 146 inches.—(2) Gross weight 13 tons; weight per inch of tire width 700 pounds; gross load of metal-tired trailers 3 tons.—(3) Number of trailers not limited.—(4) State Highway Department may issue special permits to operate vehicles exceeding weight limits.

District of Columbia.—(1) Size not limited. (2) Gross weight on bridges with wood floors 6 tons, on any other bridges 15 tons.—(3) Number of trailers 1.—(4) Engineer Commissioner may issue written permits for operation of heavier vehicles over bridges.

Florida.—No state law.

Georgia.—No state law.

Idaho.—No state law.

Illinois.—(1) Width of vehicle and load 96 inches; total length of vehicle and trailers 65 feet.—(2) Gross weight 8 tons for one axle; weight per inch of tire width (as measured at the line of contact of the tire with the road) 800 pounds.—(3) Number of trailers not limited, except by section 1.—(3) Highway officials may grant permission for operation of heavier vehicles or longer road trains.

Indiana.—(1) Size not limited.—(2) Weight 10 tons capacity.—(3) Number of trailers not limited.—(4)Special permits not mentioned.

Iowa.—(1) Width of vehicle and load 96 inches.—(2) Gross weight of vehicle and load 14 tons; weight per wheel 4 tons; weight per inch of tire width (as measured at the line of contact of the tire wtih the road) 800 pounds on hard-surfaced highways and 400 pounds on earth, gravel or similar surfaces.—(3) Number of trailers not limited. —(4) Special permits not mentioned.

Kansas.—No state law.

Kentucky.—(1) Size not limited.—(2) Gross weight 15 tons; weight per inch of tire width (as measured at the line of contact of the tire with the road) 500 pounds for metal tires and 800 pounds for other tires.—(3) Number of trailers not limited.—(4) Special permits not mentioned.

Louisiana.—No state law.

Maine.—(1) Size not limited.—(2) Gross weight 9 tons; weight per inch of tire width 800 pounds.—(3) Number of trailers not limited.—(4) Highway officials may permit operation of heavier vehicles over highways under their control.

Maryland.—(1) Width of vehicle 90 inches. —(2) Gross weight 10 tons; weight per inch of tire width 650 pounds. Vehicles rated to carry more than 5 tons not registrable.—(3) Number of trailers not limited.—(4) Highway officials may grant permission to operate heavier vehicles on highways subject to their control.

Massachusetts.—(1) Width 96 inches; length of single vehicle 28 feet; total length of a combination of vehicles 65 feet.—(2) Gross weight 14 tons; weight per inch of tire width 800 pounds.—(3) Number of trailers not limited.—(4) Highway officials may grant permission to operate heavier or larger units over highways under their jurisdiction.

Michigan.—(1) Track of trucks and trailers 75 inches between tire center-lines; overall width 96 inches; overall height 150 inches; aggregate length of a combination of vehicles 60 feet.—(2) Weight per wheel 700 pounds for tires 2 inches wide up to 3,200 pounds for tires 7 inches wide on wheels 36 inches in diameter. These maxima are larger for wheels of greater diameter, those for 44-inch wheels being 1.6 times those for 36-inch wheels.—(3) Number of trailers 2.—(4) Special permits not mentioned.

Minnesota.—No state law.

Mississippi.—No state law.

Missouri.—No state law.

Montana.—No state law.

Nebraska.—No state law.

Nevada.—No state law.

New Hampshire.—No state law.

New Jersey—(1) Length 26 feet 6 inches; width 92 inches; height 150 inches.—(2) Gross weight 15 tons; weight per inch of tire width 800 pounds.—(3) Number of trailers 1. —(4) Highway officials may issue permits for operation of prohibited vehicles over highways under their jurisdiction.

New York.—(1) Overall width 96 inches; height 150 inches. (Outside cities.)—(2) Gross weight 12½ tons; weight per inch of tire width 800 pounds. (Outside cities.)—(3) Number of trailers not limited.—(4) Special permits not mentioned.

North Carolina.—(1) Size not limited.—(2) Weight 5½ tons capacity.—(3) Number of trailers not limited.—(4) Special permits not mentioned.

North Dakota.—No state law.

Ohio.—(1) Size not limited.—(2) Weight per inch of tire width (as measured between the flanges of the rim) 800 pounds for rubber tires of all sizes, 500 pounds for iron or steel tires up to and including those 12 inches wide and 800 pounds for metal tires more than 12 inches wide.—(3) Number of trailers not limited.—(4) Special permits not mentioned.

Oklahoma.—No state law.

Oregon.—(1) Size not limited.—(2) Weight 5 tons carrying capacity; weight per inch of tire width 600 pounds.—(3) Number of trailers not limited.—(4) Special permits not mentioned.

Pennsylvania.—(1) Overall width 90 inches; overall length 28 feet.—(2) Gross weight 13 tons; weight per axle 19,500 pounds; weight per inch of tire width 800 pounds.—(3) Number of trailers 1.—(4) State Highway Commissioner may issue permits for operation of prohibited vehicles or more than one trailer.

Rhode Island.—(1) Size not limited.—(2) Gross weight of trailer 2 tons.—(3) Number of trailers not limited.—(4) State Board of Public Roads may issue permits for heavier trailers.

South Carolina.—(1) Size not limited.—(2) Weight 4 tons capacity.—(3) Number of trailers not limited.—(4) Highway authorities may grant permit for operation of heavier vehicles.

South Dakota.—No state law.

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Demountable Bodies as Unit Containers

By CALVIN TOMKINS
President, Material Handling Machinery Manufacturers' Association

THE growing disparity between terminal handling and distribution costs on the one hand and the cost of line haul on the other for both rail- and water-borne freight is an economic phenomenon of the present time which deserves more than passing attention. Carriage costs have gone down while terminal charges have gone up. Marine carriers have suffered more from this change than have rail carriers, because service by water is more irregular, the units are larger, and the processes of loading and unloading a boat are more complicated than the processes of loading and unloading a car. The scarcity, inefficiency, and high cost of manual labor, its more complete organization both for aggression and defense, have caused the suspension of numerous coastwise services and threatened the future successful conduct of the Erie Canal, Mississippi River, and the Great Lakes services at least in those directions where men rather than machines are necessary.

Except for very long hauls, railroad charges approximate haulage charges and, if the competition of motor trucks for short hauls and the overhead terminal costs which the railroads absorb shall be taken into account, probably terminal costs will be found to exceed haulage costs. The difficulties increase as cities grow in size without corresponding expansion of terminals, and as production and imports increase in volume and as labor becomes more exigent. Modernizing terminals and transfer stations and the substitution of mechanical handling machinery in place of manual labor are the only remedies.

Little has so far been accomplished toward modernizing terminals except at a few western cities and at some of the war bases of recent construction. However, much has been accomplished by the introduction of freight handling machinery. Instance the tractor and trailer, the micro elevator, belt conveying machinery, hoists, cranes, and tiering machines. I believe that the availability of mechanical handling methods is being retarded more by the lack of standardized unit containers than by any other cause.

At New Orleans, which is the best organized seaport in the country and which performs its functions better than any other port in the United States, you may observe grain, cotton, coffee, sugar, bananas, and a few other articles handled by machinery with ease and at minimum cost into and out of warehouses constructed for particular terminal uses. Even at New Orleans, however, this is not the case so far as general package freight is concerned. Here labor costs mount rapidly as human intelligence and greater liberty of movement are necessary to handle the multitude of packages varying in size, form, weight, strength, and character of contents and construction. In short, machinery has been successfully designed for special services but not for the general service of commerce. Factory handling, where packages are uniform, presents problems comparatively easy of solution, but at water- and rail-terminals, involving transfers between warehouses and the inconvenient holds of shops and interiors of box-cars, the problem has not been solved and the rule of hook and hand-truck continues.

The way out, in my judgment, will be through the introduction of a standardized unit container in the form of a demountable closed motor truck body, which can be readily transferred by cranes between railroad flat cars, truck chassis, warehouse floors, and vessels. The vertical and horizontal terminal movements involved in handling such containers are simple and capable of accomplishment by equipment now generally in use. Some reorganization of termini will be necessary, but, as the Motor Terminals Company has demonstrated at Cincinnati,[1] this will be neither complicated nor expensive. Labor costs of handling such standardized unit containers will represent a very small part of the present outlay necessary for the handling of miscellaneous package freight.

Twenty-five years ago I observed furniture van bodies being transferred across the channel on and off English and French railroad flat cars, and off and on horse-drawn vehicles (for this was before the days of the motor truck). The small size of foreign railroad carriages in comparison to those in use here naturally resulted in bringing about a change of practice in Europe before the advantages were recognized in America. But not even in Europe have they reached the point of recognizing the possibilities of adapting the closed body to the uses of a standardized container to inclose packages of assorted sizes.

Recent changes in the cost of labor and its efficiency have brought about conditions which make the adoption of such economies imperative and the motor vehicle facilitates the change. I see no reason, except the usual inertia-established custom, why strongly built containers, each made to fit on a chassis and several to fit on a freight-car, can not be made as weather- and thief-proof as our present box-cars and motor truck bodies. Such containers can be placed lengthwise or crosswise upon the flat car, and I suggest that the roofs should be flat and not rounded in order to facilitate stacking. Tarpaulin covers can be provided for roof exposure. At least the framework, and probably the tops and bases, should be of metal and possibly the sides also. The doors, fastenings, and small containers for inclosure within the outer one, are matters for expert design based upon growing experience, as will also be the method of marking the outer and inner containers to designate ownership.

A demountable standardized container can be advantageously used for the temporary storage of commodities in place of car storage and for huckstering distribution of foods and similar commodities. The use of railroad cars for the first purpose has always been a feature of railroad terminal practice, which is most undesirable from the standpoint of the railroad, but most convenient and economical for the receiver of goods. The second use is comparatively new and is rapidly being extended for the sale of apples, potatoes and other commodities, and is being objected to because it obstructs terminals and delays the cars, but if storage and retail distribution can be conducted without delay to the railroad flat car or without obstructing terminal trackage, these objections will be removed and great economies and conveniences effected. The partial elimination of the inconvenient box-car will also be a decided gain in terminal convenience.

There can be no storage or distribution as convenient and as cheap as this. Probably the 5-ton body will be the container generally used, but smaller containers, 1-, 2-, 3-, or 4-ton, can be stacked on flat cars and transferred to corresponding truck chassis. Certain kinds of materials, such as cement, plaster, etc., can be loaded at the factory directly into the container and transferred direct to the point of use, thus doing away entirely with the necessity for expensive packages like bags and barrels.

Tennessee.—No state law.

Texas.—(1) Width of body 84 inches.—(2) Weight per wheel 5,000 pounds; weight per inch of tire width 500 pounds.—(3) Number of trailers not limited.—(4) State Highway Department may issue permits for heavier or wider loads.

Utah.—(1) Size not limited.—(2) Gross weight 10 tons.—(3) Number of trailers not limited.—(4) Special permits not mentioned.

Vermont.—(1) Width 96 inches; height 146 inches.—(2) Gross weight 6¼ tons in towns or incorporated villages, elsewhere 5 tons; weight per inch of tire width (as measured at the line of contact of the tire with the road) 600 pounds.—(3) Number of trailers 1.—(4) Local authorities may issue permits to operate prohibited vehicles over highways subject to their control.

Virginia.—(1) Size not limited.—(2) Gross weight 12 tons; weight per inch of solid tire width (as measured between the flanges of the rim) 700 pounds.—(3) Number of trailers not limited.—(4) Special permits not mentioned.

Washington.—(1) Size not limited.—(2) Weight 5 tons for loads outside cities of first or second class.—(3) Number of trailers not limited.—(4) Cities of first and second class may by ordinance permit heavier loads within their borders.

West Virginia.—(1) Width 90 inches.—(2) Gross weight 15 tons; weight per inch of tire width 600 pounds.—(3) Number of trailers not limited.—(4) Highway officials may issue permits for operation of wider or heavier vehicles over highways subject to their control.

Wisconsin.—(1) Overall width 96 inches; length 30 feet.—(2) Gross weight 12 tons; weight per axle 9 tons; weight per inch of tire width 800 pounds.—(3) Number of trailers not limited.—(4) In cities of first class officials may issue permits for operation of road trains not longer than 100 feet.

Wyoming.—No state law.

[1][See "Motorizing Terminals," by B. F. Fitch, in the April issue.—Ed.]

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Republic Truck Earnings

Income account of the Republic Motor Truck Company for the six months ended June 30 last shows net earnings before federal taxes of $1,741,618, equal to $17.12 a share on 100,000 shares of no par value common stock, after deducting preferred dividends. This compares with net earnings before taxes of $188,751, or $1.55 a share, on the common in the corresponding period last year. Net earnings before taxes during the first half of this year were at the annual rate of $3,483,236, or $2,000,000 greater than best previous net earnings before taxes of $1,485,083 in 1918 and more than three times greater than net earnings before taxes of $862,902 in 1919. In other words net earnings before taxes in the first six months of 1920 were greater than net earnings before taxes in any previous 12-month period. Profit and loss surplus of $2,719,033 as of June 30, represents an increase of $1,476,890, or more than 100 per cent., over profit and loss surplus of $1,242,143 on June 30, 1919.

The company has greatly bettered its financial condition since last year. Balance sheet as of June 30, 1920, shows total current assets of $9,179,849 and current liabilities of $6,106,629, making net working capital of $3,073,220. This represents an increase of more than $2,500,000 in working capital since June, 1919, when total current assets were $7,065,205 and current liabilities were $6,650,302.

Inventories this year totaled $6,781,561, an increase of not quite $1,500,000 over last year. Property account of $2,009,651 has been marked down slightly from $2,146,748 in 1919. Notes and accounts receivable of $1,226,610 represent an increase of nearly $1,000,000 over last year and cash on hand of $1,162,964 compares with $1,268,823 in the preceding year.

Bethlehem Output Increased

During the month of August the Bethlehem Motors Corporation produced 450 motor trucks and a schedule of 500 in September has been begun. The record for August was the best the company ever made. Deliveries of supplies, and deliveries of engines in particular from the company's motor plant at Pottstown, are now regular and plans call for a steady increase in production. A reorganization will be announced soon, through the financial assistance of one of the large New York banks.

Pierce-Arrow Profits

The Pierce-Arrow Motor Car Company is in as strong financial condition as at any time in its history. Cash on hand is greater than bank loans and current assets exceed current liabilities in a ratio of four to one. Like most other vehicle manufacturers, Pierce-Arrow is feeling the effects of a lessened demand for both passenger cars and trucks and, while current earnings under existing conditions are looked upon as satisfactory by the management, they are at a rate smaller than earnings of the first half of this year. For the three months ending September 30 net profits, after all charges and federal taxes, probably will not exceed $600,000, or approximately $1.50 a share on the common, after deducting preferred dividends. This compares with net profits after taxes of $705,779, or $2.02 a share on the common in the preceding quarter and $717,265, or $2.07 a share in the first three months. For the full 12 months of 1920 Pierce-Arrow's results should equal those of 1919, when net profits, after all charges and federal taxes were $2,491,070 or $6.75 a share on the common after preferred dividend requirements. Reorganization of the company undertaken last July has been practically completed with the result that it is in a position to take full advantage of any resumption of passenger car and motor truck buying on a scale approaching that which existed in the spring of this year and which is looked for, in some quarters, this fall.

Packard Closes Best Year

Net earnings of the Packard Motor Car Company and its subsidaries for the fiscal year ended August 31, last, were $10,044,952 before federal taxes, Alvan Macauley, president, reported to the board of directors. President Macauley describes the year as the best in the history of the company and discloses not only a record making volume of business, sales totaling $62,597,240, but shows that the company is in unusually strong financial condition. He said in part:

"At August 31, 1920, the company had loans from banks amounting to $5,000,000 and apart from this was entirely free from indebtedness, except for ordinary current purchases. At the same date cash deposits in banks were $3,342,865, leaving a balance due the banks of $1,657,134. In addition the company had in banks for collection, but not discounted, drafts with bills of lading attached amounting to $936,896. Deducting these items from bank indebtedness the net amount owing by the company, outside of current purchases, would total $720,237. In addition to the cash in bank and the inventory the company has cash assets of $10,787,368. Total net assets over and above all liabilities and charges are approximately $49,223,120 and surplus over and above all liabilities and stock outstanding is $22,116,522."

Gary Truck Earnings

The report of the annual meeting of the Gary Motor Truck Company of Gary, Indiana, shows that the total sales of the company during its fiscal year ended August 31 were $2,310,330.68, with net profits of $219,269.23. A dividend of 10 per cent. was declared, payable quarterly, beginning October 1. Its inventory showed a stock of materials on hand worth $498,236.16. The board of directors was increased in number from five to seven. W. H. O'Donnell retired, and Theodore B. W. Zumstein, Robert L. Scott and J. A. Blodgett were elected to the board. The directors elected as officers Frank Dawson, president and general manager; Theodore B. W. Zumstein, vice-president; Robert L. Scott, treasurer, and T. H. Cooper, secretary. W. F. Hodges, mayor of Gary, and Harry Searle remain as directors. The first action of the new board was a resolution directing Frank Dawson to proceed at once to build in large numbers a 1-ton pneumatic tire truck, and this carries with it the enlargement of the company's plant.

Mack Production Increases

International Motor Company, New York, produced more than 2,500 Mack trucks in the June quarter compared with 1,870 in the March quarter, an increase from a 7,500 per annum rate to a 10,000 per annum rate. In the June quarter earnings were at the annual rate of $4,781,000, or 12.6 per cent. on the junior stock issue. For the half year earnings on the common stock totaled $5.65 a share, or at the annual rate of $11.30 a share, with the probability that 1920 will show $12 a share on the junior issue.

One of the most interesting developments of International Motor has been the steady increase in production of larger sized trucks. At present between 50 and 60 per cent. of the total units manufactured is in the larger sizes up to 7½ tons, while at the end of 1919 only 40 per cent. was in the larger units. This tendency is significant as showing the strict commercial character of its output and the position of growing importance which the truck is gaining as an adjunct for industrial transportation.

Standard Parts Not Insolvent

In appointing receivers for the Standard Parts Company of Cleveland Judge Westenhaver of the federal district court declared that the company is not insolvent, having assets of approximately $22,000,000 and liabilities of only $9,500,000. The receivers are J. O. Eaton, president of the company, and Frank A. Scott, treasurer of the Warner & Swasey Company.

August Truck Production

Reports from Detroit indicate that there is a tendency to push production back to normal figures for this time of year. The Reo Motor Car Company reached the 2,000 mark in truck output in August, which represents a gain of 1,000 vehicles over July. Increases are also reported from the Federal, GMC and Packard factories. The Republic plant, which was closed during the last ten days of August for the taking of inventories, made 340 trucks that month as compared with 1,240 in July. The output of the Oldsmobile company was 200 below July production, and the Paige output was reduced one-half. Production below July figures is reported also from the Acme, Denby and Transport factories.

Earnings of Sewell Wheel

The Sewell Cushion Wheel Company, Detroit, has announced that business for the first six months of this year increased 136 per cent. over the corresponding period of 1919. Sales for the first six months of 1920 exceeded $1,000,000, while sales for the same period in 1919 slightly exceeded $424,000. This concern also reports recent receipt of large equipment orders from the Standard Oil Company, Texas Company, Indian Refining Company, Tidewater Oil Company, Continental Oil Company, Kroger Baking & Grocery Company, Heywood Bros. & Wakefield, Pittsburgh Coal Company, Whitaker Paper Company, City of Detroit, Chicago Surface Lines, Paragon Refining Company, and various fire departments.

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Motor Logging in the Northwest

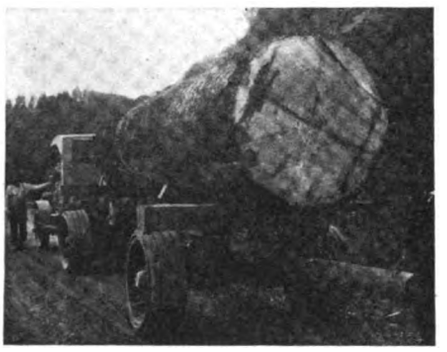
By W. H. CHAPIN

Sales Manager, Koehring Machine Company, N. W., Portland, Oregon

THE history of the logging industry in the Pacific Northwest is a story of development much the same as the history of any live industry. When the timbermen and loggers migrated to this section from the forests of Michigan and Wisconsin they brought with them the ideas and methods of that section. The change from the eastern methods of oxen and driving streams was rapid and complete. Railroads were introduced until it looked as if the only method of successful logging could be applied only by a big holder of timber who could operate on a big scale. The small man was almost at the mercy of the big operator.

One day, how long ago I do not know, some small timber holder with the determination of backing up his ideas with a little cash, tried a motor truck in hauling his logs. That was the start. It was nearly seven years ago that I saw a truck hauling cedar logs on the country road in Tillamook County, Oregon. The whole log was on the truck. The idea of using a trailer had not been developed at that time. That truck worked on that job all that summer. Out of that summer's work, I have no doubt, many ideas were developed.

Some of the truck men waxed enthusiastic over the idea, but most of them paid no attention to it. Those who did pay close attention to that line of work have induced the factories which they represent to develop a truck suited to the heavy work it is called upon to perform in the timber lands. Now that logging with trucks is a factor, all makes are endeavoring to break into the work. Many are doing so with poor success, for they, like the pioneers, must go through the hard knocks of experience in order to produce



Illustrating the heavy truck and trailer construction used in the Northwest.

the well-balanced truck suited to the logging industry.

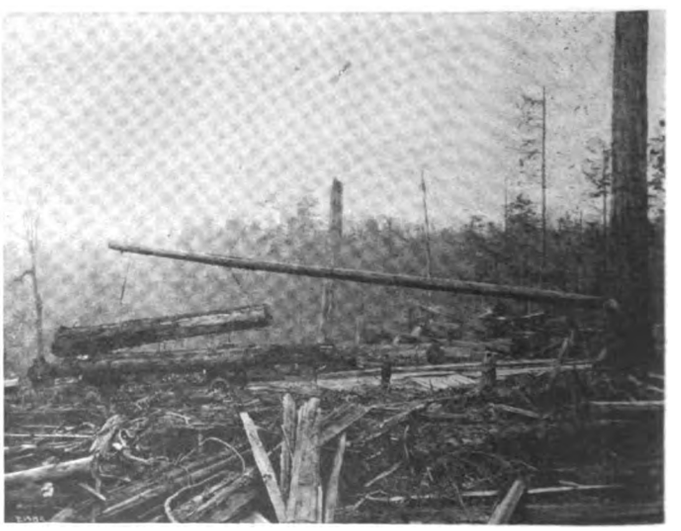
The road problem is of great importance. Although trucks and trailers are used extensively on county roads, the best work has been done on privately built and owned roads. Such a road, when well constructed, can be used through the winter months and the loads hauled will be limited only by the capacity of equipment.

The pole road and the concrete road are the two general types of roads which seem to be in favor with the experienced logger. The subgrade may be alike for each type of road. The grades may be left steeper for concrete, which affords better traction than poles. It is not advisable to have a grade steeper than 6 per cent. where poles are used, while trucks will haul up a 12 per cent. grade on concrete, and down a 15 per cent. grade. The average width of a logging truck, measured outside the wheels, is 7 feet 6 inches. This calls for a road about 8 feet wide, so the subgrade should be made about 12 feet in width. Ditches for draining should be made and the water carried away from the hill side of the grade at least every 50 feet.

The best type of pole road is made with heavy single poles for the main tracks, lighter poles on the outside for guard-rails and light poles on the inside to help support the steering-wheel. This makes three poles for each track, or six poles in all. The main pole should be about 20 inches in diameter. The longer these poles, the more serviceable they will be. The top side of the pole will be hewn down to a flat surface from 16 to 18 inches wide. This pole should then be laid in a ditch about 8 inches deep, leaving it half buried. It will be necessary to let the poles rest on cross ties about every 10 feet, also to spike them down securely to prevent them from rolling. The outside guard-rail should be about 8 inches in diameter or larger. This guard-rail is laid on the surface of the ground, close to the main pole. It should be well braced from the outside, and securely spiked to the larger pole. With the main pole partly buried, the guard-rail will extend from 4 to 6 inches above ground. It is quite necessary to have this guard-rail when operating with a trailer. The inside pole should be the same size as the guard-rail, but the top surface must be hewn flat, and laid level with the main tracks. The inside surface of this pole should be smoothed up so as to lie close to the main pole. It will be an easy matter to brace these poles from the inside. The guard-rails have a braking effect by rubbing against the truck wheels.

After the poles are laid, the subgrade should be ditched in the center deep enough to carry away the water that falls in the middle of the road. The dirt from this ditch can be used to bank up the outside

A load of 4,800 feet of cedar about to pass an empty outfit on a plank turn-out.



Handling a 2,400 foot, 7-ton cedar log by means of a spar tree and a loading boom.

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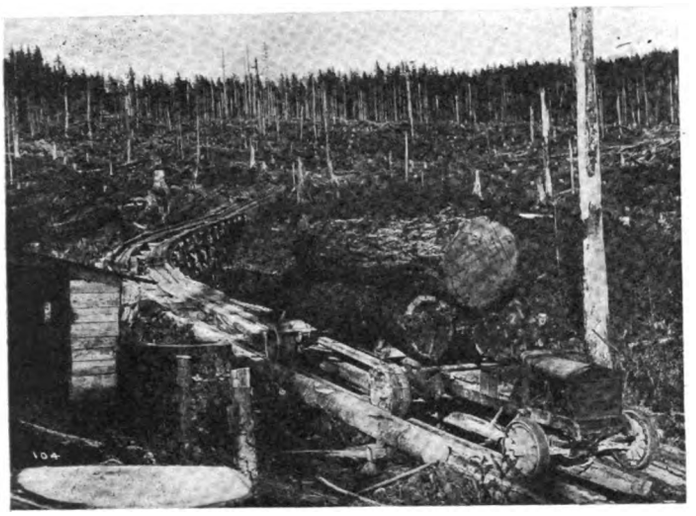


Climbing an average grade of 9 per cent. on a private bridge.

Commencing the descent of a 30 per cent. grade on a pole road.

of the grade. The success of log hauling depends principally upon the road, and the success of the road depends upon the drainage.

Another form of pole road uses planks, 4 by 6 inches, instead of poles, and has cross ties about 4 feet apart. Both types of road are easily moved and can be used over and over again.

Two tracks of concrete—one for each wheel—are used in the concrete road. The ditches holding this concrete should be 6 inches deep and 26 inches wide. They may be filled to the top. A form should be in place so as to run a guard-lip 4 inches wide and 4 inches high on the outside top of the main surface. This will leave an inside surface 22 inches wide for the truck to run upon. The subgrade for the concrete road should also be well ditched in the center, having cross ditches every 50 feet, the same as recommended for the pole road.

The respective costs of the two types of roads depend upon the accessibility of the material. A concrete road of this type can be built for about $4,000 per mile. This does not include the grading. The cost of the pole road will probably be about $3,000 per mile.

Particular care should be given to the guard-rails upon the curves. It will also be necessary to widen the road considerably at the curves. It is advisable to build solidly all turnouts and the spaces at the landings.

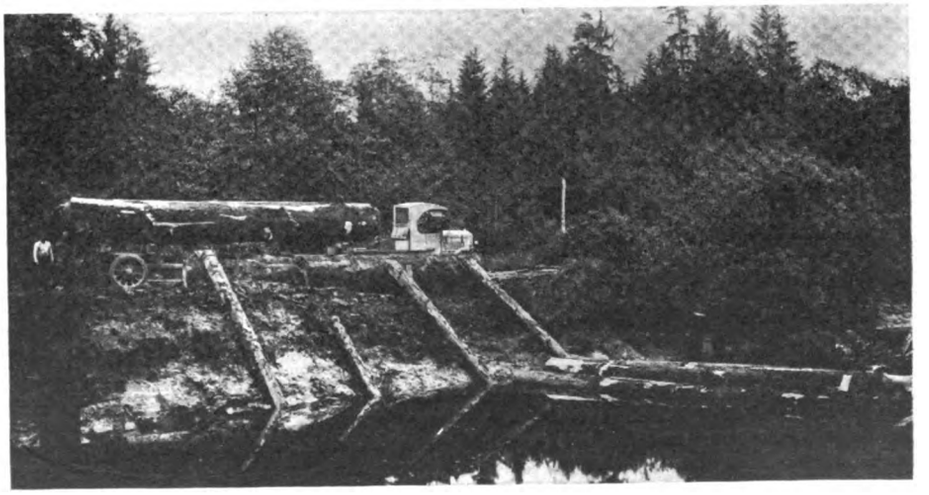
During the summer months heavy planks laid fore and aft may serve to reach certain settings. These planks should be well cross-tied. One of the handy features of motor truck logging is the small cost of building branch roads. This makes it possible to move the setting more often, and thereby reduce the distance of the yarding. The crying necessity for the roads is during the extremely short season here. There is more or less rain from September 1 to May 1, so that with anything but a first-class, all-the-year-round road a truck doesn't have much chance to earn its way.

While the road was being developed the idea of a trailer was being worked out. That development cost one logger and another a small fortune. There was first the 4-wheeled short-coupled trailer with steel tires, then the one with cross chains to make it track perfectly, then the 2-wheeled trailer with rubber tires, but too light, until now we find very few makes of 2-wheeled trailers built heavily enough to carry the load. The eastern trailer builder doesn't grasp the idea of what is needed out here. He simply thinks we are crazy and do not know, while as a matter of fact we do know; but he doesn't and will not listen. On the big, heavy logging job we will find a trailer with steel wheels and giant tires 40 by 14 inches and with axles, springs, frame, bolsters, reach, etc., to match. And that trailer at times is none too heavy. Recently I saw one outfit using 9-foot bolsters on the trucks and trailers. The load was quite sizeable, as every inch of space was used.

Tilting the truck for dumping.

In our woods the 5-foot log, that is, the log 5 feet in diameter, is not uncommon. The longer it is the more the logger can realize on it, for it is very difficult to handle logs longer than 42 feet and consequently a premium is paid for long logs. Whatever may be the length of the log, the truck must be equal to carrying it. It is not unusual to see trucks hauling poles 125 feet long. In that case the reach is uncoupled from its truck hitch, the trailer is moved back to the desired distance and after the load is on the reach is chained to the poles. They get around corners by blocking the wheel on the short turn side until the reach, which has been unchained, is thrown out quite a distance. The block is removed and the truck then proceeds around this corner, an assistant usually hanging on to the reach until nearly around, when the reach is straightened up by blocking the other wheel and rechaining it in place. In other words, it works on the principle of a fire hook-and-ladder truck rounding a corner by steering the rear wheels.

Many methods of loading are employed.



Preparing to drive truck and trailer upon the incline to dump.

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Horses are used where the timber is rather small and scattered and located on comparatively smooth ground. Usually a heavy "donkey" is used to yard out and to load. Many times a high line or a gin pole is used. In either case the log is lifted up bodily, swung over the truck and placed exactly where it is wanted. Sometimes the donkey rolls the log on the truck. The former is much the better method, though sometimes the donkey man "lets go" his load too soon and the log drops with a "bang"—a method that does not help the truck any.

In the northern part of Oregon and all of Washington the timber is large and the chucks or blocks on the bunks are sufficient to hold the logs in place. A load consists of from one to six logs, depending on their size. In southern Oregon the logs are smaller and a load of 15 logs is not uncommon. In that section of the country chains are used to bind the load.

As an observer watches the loggers work with a truck it all looks so easy and simple that it seems anyone could do it. That is the deceptive thing about it. It is manual labor, but it is also skilled labor. Truck drivers in logging camps are products of many seasons' experience. A city driver is lost in a logging camp.

As I have said, up to the time of the advent of the truck in the timber the small owner was at the mercy of the big man. Now the little timber owner can log and cut at one-half the expense of the big mill with big equipment in the shape of railroads, etc. Many mill men are buying small patches of timber, logging it to some railroad or navigable river, or to their own small mill near by, using trucks, then hauling the lumber to the nearest shipping point, which sometimes is 15 to 20 miles distant. And with all that haul he is outdistancing his big brother, so that the truck surely is a Godsend to the small operator.

The cost of hauling logs with trucks depends entirely upon grades and conditions, but more than anything it depends upon the man in charge. His first work is the proper laying out of his road, that is, making the grades easy. In that one thing is a great saving on the running time of his trucks, and that is a big factor. If a truck can make six trips a day with capacity load on a good road, he will do well to make four trips with less than capacity on a poor road. In other words, the good road beats the poor road by over 50 per cent. The cost of operation is the same in either case, possibly greater on the poor road than on the good one, though the mileage covered is greater on the good one. The mileage is more than offset by the racking and wrenching on the poor road. The increased cost of maintenance would soon pay for the road.

The next point is the selection of a truck. It must be strong in all its points. It must have power and it must have service close by. The initial cost is a small item and should hardly be considered, except as a final deciding factor when the trucks under consideration are in other respects equal.

Some Remarks on Farm Truck Service

By GEORGE G. McVICKER
A Farmer of North Bend, Nebraska

IN deciding on a motor truck for farm use, it becomes a difficult proposition if there is taken into consideration the same or an equal amount of business foresight as is so taken when the manufacturer, the coal dealer or the grocery man contemplates such a purchase. The success of any motor truck depends largely on the type chosen for the particular class of work, and when not so adapted the most practical use of it is lost. A grocery man would not wisely purchase a coal dealer's truck for his transportation business, neither would a sand dealer have use for the grocery truck. But with the various farm requirements like conditions are met as are found in the transportation of each of these various commodities, thus no equipment is yet built which is adequate for all farm transportation without sacrificing fuel and repair maintenance on some part of the yearly work.

The capable transportation manager apportions the quantity and nature of load to the truck best adapted for such load, where business is such as to demand more than one type or size of truck. But this can hardly be so arranged or calculated when farm transportation demands are met. For instance, the truck leaves the farm for the morning market with a dozen 300-pound hogs on a well-kept or hard-surfaced road. Unless provisions are prearranged to prevent it, two-thirds of the load may shift from front to rear or vice versa before the end of the route is reached, while a side-sloping road or a one-side rut allows most of the load to shift almost wholly to one rear wheel. Both difficulties may be partly overcome if division gates are placed in the rack lengthwise and crosswise.

More than three-fourths of the return trips from marketing farm produce must be made empty unless a strictly systematic record of demand and stock of farm supplies is kept. Many useless empty trips to town for supplies and likewise empty trips home from market may be saved if such a record is kept. Salt, posts, etc., and other supplies which are always a farm stock at hand necessity, and which do not fluctuate much in value, may be purchased sufficiently far ahead to help make up loads when returning from grain or stock market if such needs are known. Having the only grain or stock marketing truck in my immediate vicinity, I make it a point to call neighbors between home and town each time I expect to have to return without a full load. In exchange for delivering supplies for them, an equal amount of team hauling or other work is returned.

In loading a truck with any material uncommonly handled by the driver, such as brick, metal fence-post, etc., care must be taken to avoid an overload. I well remember seeing a truck driver in Dakota call a garage repair man to locate the cause of his truck motor apparently losing its power. The driver had loaded from a railway car to his truck angle-iron fence-post for delivery to an inland town and not until his attention was called to the fact that he had on nearly 3 tons in place of 2, as he supposed, could he be made to belive what the trouble was with his motor. It is too often the case that the capacity of a truck is determined by the size of the body rather than by the actual weight of load, because with the wider box rack usually fitted to trucks for marketing hogs an overload is easily attained if the hogs happen to be extra heavy.

The greatest difficulty encountered with the farm truck is the poor road conditions which may happen to predominate just at the time when grain or live-stock must be delivered.

A 200-foot 7/16-inch plow steel hoisting cable is a part of the regular equipment of my truck and a drum 8 inches in diameter by 3 inches wide is attached to each rear wheel. This cable will wind on this size of drum without injury and will usually reach to a telephone pole or can be quickly anchored ahead. It is very useful in getting out of bad places.

It is almost universally supposed by those not familiar with truck driving that, due to the necessary space for seat and motor, the front wheels do not carry their share of the net load, but such is a fallacy. Only sufficient weight on them to cause them to hold to the ground and guide the truck is proper. From 80 to 90 per cent. of load should be on the driving-wheels to produce the best economy in truck driving. This is easily determined on bad roads. Most trucks will carry a 50 per cent. overload for a time, but such is not economy if made a regular practice. Repair bills, I have found, are in more than direct proportion when such overloads are too frequent.

Extra strains on the truck, such as driving through extremely bad roads or attempting to force the truck by continuous ramming from a sand or soft earth stalled position, are of more harm than six months' correct use. Such strains develop malalinement of parts and fractures which later give way or cause undue wear on gears or bearings.

Neglect, I have found, is the greatest cause of depreciation of a motor truck, especially when two or more persons operate it alternately as one leaves it for the other to supply oil or clean grit from a bearing or gearcase. Thus, I have got away from the habit of waiting for a rainy day as I do with the touring car, but before each long trip or series of short ones, such as threshing time or hauling several loads in succession, I make it a point to determine the condition of the bearings, the oil and

(*Continued on page* 63.)

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Oil-Tank Truck Specifications

By F. A. BEAN

Consulting Engineer, Wayne Oil Tank & Pump Company

THE chassis specifications submitted herewith have been drawn from the results of the experience of several of the largest oil companies and also embody the opinion of some of the best automotive engineers and tire experts. Because of the class of work to which trucks in the delivery of gasolene and other petroleum products are placed, their maintenance charge is usually much higher than it would be in other lines of industry for a similar mileage or period of time, and this, in turn, increases the delivery cost per ton-mile or per gallon.

The principal reason for this is the unusually hard service that the trucks are called upon to perform, and the fact that all trucks are designed to be operating at their maximum efficiency when fully loaded. It is impossible in this class of delivery to have the truck loaded on the home trip in order to reduce the operating cost. It is very seldom that a tank truck will return with any considerable portion of its outgoing load. If it does as a regular occurrence, it is an indication that the wrong capacity truck is used on that particular route, that is, that the truck is improperly routed. In a great many cases the tank will be partially empty when it has completed only a portion of its outward trip. If the truck is traveling over a rough road at a moderate or even slow speed, or over a good road at the maximum speed allowed by its governor, the semi-filled condition of the tank causes the load to shift, even though the tank is equipped with surge plates. This shifting of the load sets up strains, not caused by other classes of hauling, in the motor, frame, drive shaft, universals, etc., and these require a careful and rigid inspection system which, in turn, adds to the maintenance cost.

Keeping this thought in mind, extreme care should be used in purchasing the chassis. If specifications are carefully written at the outset, the truck company and its salesmen will know just what is expected by the oil company and it will save a great deal of useless argument and a considerable loss of time. It must, of course, be understood that a chassis delivered in accordance with a rigid specification will involve a greater first cost, but, on the other hand, the maintenance and operating cost during the normal life of the truck will be reduced to such an extent that the final cost should be considerably lowered and therefore the unit cost of delivery of the period lessened.

Let us consider carefully just what these specifications should be for trucks of all capacities. The specifications contained in this article have been written to include all accessories and detached equipment not usually included in the chassis price. It will be found that it is usually cheaper to have all such equipment as lighting system, bumpers, etc., which by some companies are not considered a part of the chassis, furnished and the complete assembly delivered by the truck company, than to try to buy the accessories separately from various companies and assemble them afterward. Tank and body specifications will be considered later.

The first item written into the accompanying specifications is that of tires. While the pneumatic cord tire is more or less in an experimental state, it is generally agreed that it is the proper tire for the smaller capacity trucks from the standpoint of increased speed, increased traction, increased tire mileage and reduced chassis maintenance on account of reduced vibration and resulting decrease in actual depreciation and decreased fuel consumption. It must not be thought that the pneumatic cord tire has no faults. Against the above are some features which tend slightly to offset them. They are the high cost, the reduction of high-gear ability, limitations on braking power, and time consumed on the road in making changes. How great a problem is involved in the introduction of pneumatic tires for truck service was recently told by one of the foremost men in the industry through the columns of this journal. It includes the probable increased size of motors as well as the possible necessity of redesigning them entirely, also extremely important changes in transmissions, differential and brakes.

Where comparative statistics have been kept on trucks in other lines of industry, it has been developed that those equipped with pneumatic cord tires show a reduction in repair bills of as high as 60 per cent. and a saving in fuel of 25 to 30 per cent. Some engineers are of the opinion that they can at the present time be profitably used

SPECIFICATIONS FOR MOTOR TRUCK CHASSIS TO BE USED IN THE DISTRIBUTION OF PETROLEUM PRODUCTS.

All motor truck chassis shall conform to to the following specifications and all bids tendered shall be based on these specifications and shall include all items named herein. If a tender is made on tank or stake body it shall be made separately and shall not be included with the bid covering the chassis.

Tires.—Chassis shall be equipped with either solid or pneumatic cord truck tires at the option of the purchaser and shall conform in size to those shown in the tabulated list given herewith. When solid tires are specified they shall be of the single, fluted, pressed-on type. When pneumatic tires are specified they shall be of the straight-side type.

Wheels.—Wheels shall be either wood of the artillery type or solid metal, disk type, at the option of the purchaser.

Rims.—Shall be of such size and design as will properly care for the size and type of tires specified.

Antiskid Chains.—Eight unit antiskid chains of proper size, and with the necessary fastening shall be furnished with each chassis. The fastenings shall be delivered installed on the wheels.

Hubodometer.—A hubodometer of approved type shall be furnished and installed on the left front wheel.

Governor.—A speed governor of approved type shall be attached to the motor and shall be set to such speed as is indicated in the tabulated list given herewith.

Bumper and Radiator Guard.—All chassis shall be equipped with bumper in front and a metal radiator-guard, both of approved type.

Transmission Speeds.—Each chassis shall have one reverse speed and the number of forward speeds shown on the tabulated list herewith.

Towing Eyes or Hooks.—Each chassis shall be equipped with a towing hook or eye installed on each corner of the frame.

Cab.—Each chassis shall be equipped with a cab (style to be approved by purchaser) of wood or steel construction and equipped with rear window, windshield, side curtains, seat and cushions.

Lighting System.—Each chassis shall be equipped with a complete electric lighting system including 6-volt battery, battery box, generator, two head-lights and one tail-light, with all wiring in conduit.

Warning Signal.—The chassis shall be equipped with an approved electric horn.

Tools.—Each chassis shall be equipped with a full set of tools, including a jack of such size as will lift the truck with which it is furnished when fully loaded. A tool-box of sufficient size to hold all the tools and securely fastened to the chassis and fitted with a lock and key shall also be furnished.

Drawings.—The manufacturer shall submit to the purchaser detailed dimensioned drawings and descriptive matter covering the chassis, motor, horse-power, ignition system, wiring plan, carbureter and size, oiling system, cooling system, wheels (front and rear), type of rims and tires, exact location of muffler and exhaust, gear ratio, weight of chassis as regularly equipped by the manufacturer, the exact weight of all additions made under these specifications, body weight allowance, extreme length over all and extreme width hub to hub, length of frame back of seat, overhang of frame beyond rear axle center-line, frame width, height of frame at rear without body and with body fully loaded, height from ground to top of cab, wheel-base, turning radius, percentage of load on rear wheels including body when loaded, a detailed description of all equipment herein specified showing where and how it is installed (including the lighting system with wiring diagram, cab, governor, hubodometer, antiskid chains, bumper, radiator-guards and towing eyes), and a list of all equipment included in the regular chassis weight specified by the manufacturer.

Tire-Pump.—When the chassis is to be equipped with pneumatic tires, a tire-pump of sufficient capacity shall be installed in connection with the power unit and proper provision made for its operation from the motor.

Painting.—All chassis shall be delivered in the lead, unless otherwise specified. When the complete painting is to be done by the truck manufacturer, it shall be in accordance with the specifications which will be furnished by the purchaser. A separate bid shall be made to cover the painting.

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up to and including the 4-ton models, while others are of the opinion that 2 or 2½ tons is the maximum capacity for tires of this class. They are frank to say, however, that they believe that future developments will make it the proper tire for some of the larger capacity trucks. As a matter fact, at the present time tires of this class are not being manufactured on a commercial basis to care for a truck of over 3-ton capacity. It is reported that tires of the larger sizes have recently blown up causing some truck damage and severe personal injuries. When this type of tire is used it is very essential that it be kept inflated up to the required pressure for the weight which it is carrying.

It has been my experience that when solid tires are used, either in the city or on country roads, they should be of the single type. The dual type of tires will not wear evenly on both the inside and outside of the same wheel or on opposite wheels. This condition necessitates their being changed more often than single tires, otherwise one wheel will be carrying more than its proportion of the weight, which causes severe strains on various parts of the chassis. A similar condition exists when a wheel equipped with dual tires meets an obstacle not large enough to engage both tires. The result is a tire temporarily overloaded and consequently unable to protect the truck mechanism from the resulting shock.

Comparatively few trucks are delivered from the factory, except on special order with tires sufficiently large to give the very best results. The oversizing of the tires on a truck will do just as much to increase the life and reduce the maintenance cost, fuel bills, etc., as the same practice will on a passenger car. However, it must be remembered that there is a limit to this oversizing. A tire that is too large is as grave a fault as one that is too small. Do not confuse "oversizing" with "overtiring." If the rear wheels are overtired for the weight to be carried the motor becomes overloaded unless the chassis was orginally overpowered. When the front wheels are overtired there is a tendency for the truck to steer hard and an unnecessary strain is brought upon the steering knuckles.

The attached table showing tire sizes has been very carefully prepared, and engineers generally agree that it will give good results on the majority of trucks which are suited to the distribution of petroleum products. To a fleet of trucks covering all capacities the use of these data will mean the stocking of a minimum of sizes and the stocking of no sizes which are in line to become obsolete so far as is now known. It is very noticeable that the tires shown in the list as being furnished by the truck manufacturer are being used on the front and rear in every conceivable combination.

The great range of sizes now being furnished by the various manufacturers is due to the variance in the weight of the chassis and the distribution of the load between the two axles, also to the practice of a great number of the truck manufacturers in furnishing the tire companies with the specifications of their truck and then using the smallest size tire which can possibly be expected to carry the entire weight of the truck with its load, although in many cases it is not the size recommended by the tire manufacturer as being the proper one to give the most economical mileage. This is done for the purpose of reducing the cost of the chassis and is, of course, a question entirely of trade competition.

The better way for the oil company is to ascertain accurately the weight of the chassis to purchase, add to this the weight of the body and live or pay-load, ascertain the percentage of load applied to each axle of the chassis in question, and then specify the size of tires desired.

To facilitate this work the accompanying tables show the range of maximum weights as recommended by tire manufacturers for the various sizes of both single solid tires and pneumatic cords. The figures shown in bold-face type are those most generally used. Truck salesmen will sometimes take

TIRE SIZES, VEHICLE SPEEDS, AND NUMBER OF FORWARD TRANSMISSION SPEEDS SPECIFIED FOR OIL-TANK TRUCKS.

Truck Capacity in Tons.	Sizes in Inches of Solid Tires Furnished by Various Truck Manufacturers. Front.	Rear.	Recommended Tire Sizes in Inches. Solid. Front.	Rear.	Pneumatic Cord. Front.	Rear.	Governor Speed of Truck in Miles Per Hour. Solid Tires.	Pneumatic Cords.	Number of Forward Speeds.
3½	30x3 32x3 34x3 36x3 32x3½ 34x4½	34x 3½ 36x 3½ 32x 4 32x 4½ 33x 5 34x 4½ 37x 5½	....	....	**34x4½**	**35x5**	..	27	3
1	32x3 33x3 34x3 35x3 34x3½ 36x3½ 38x3½ 33x4 36x4 40x4 35x5	34x 3½ 36x 3½ 32x 4 34x 4 35x 4 36x 4 34x 5 35x 5 36x 5 34x 6 35x 6	....	....	**34x4½**	**36x6**	..	25	3
1½	34x3 32x3½ 34x3½ 35x3½ 36x3½ 34x4 36x4 35x5 37x5	36x 3½ 32x 4 34x 4 36x 4 34x 5 36x 5 34x 6 36x 6 38x 6 38x 7	**36x4**	**36x6**	**36x6**	**38x7**	18	22½	3
2	34x3½ 36x3½ 34x4 35x4 36x4 37x4 38x4 35x5 36x5 37x5	34x 7 36x 7 36x 8 40x 8 34x10 36x10 34x12 35x12 36x12 38x12 36x14	**36x4**	**36x8**	**36x6**	**40x8**	16	20	4
2½	34x4 36x4	36x 7 34x 8 36x 8 40x 8 **46x 8** 36x12 36x14 38x14	**36x5**	**36x8**	**38x7**	**42x9**	15	18½	4
3	48x3 34x4 36x4 34x5 36x5	36x 7 38x 8 36x10 40x10 36x14	**36x5**	**36x10**	**38x7**	**44x10**	14	17	4
3½	36x5 37x5 38x5 36x6 38x7	36x 8 42x 9 36x10 37x10 **38x10** 40x10 44x10 36x12	**36x5**	**36x10**	....	....	12	15	4
4	36x5 38x5 36x6	36x 8 36x10 **38x10** 40x10 36x12 40x12	**36x6**	**40x10**	....	....	12	14	4
5	34x5 36x5 36x6 37x6 38x6	36x10 37x10 40x10 42x10 **48x10** 37x12 40x12 41x12	**36x6**	**40x12**	....	....	12	..	4
5½	36x5 36x6	36x10 40x12 40x14	**36x6**	**40x12**	....	....	12	..	4
6	36x5 36x6	36x10 **36x14** 40x14	**36x6**	**40x12**	....	....	12	..	4
7	36x6 36x7	36x10 **40x14**	**36x7**	**40x14**	....	....	12	..	4
7½	36x7	40x14	**36x7**	**40x14**	....	....	12	..	4

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the stand of endeavoring to force stock chassis on a customer, but as has been previously stated this is usually through ignorance of the conditions under which the truck must operate.

Under ordinary conditions there is very little choice between the solid steel disk and artillery type of wheel. In a hot, dry climate the artillery wheel will show a slightly increased maintenance cost due to the loosening of spokes and shrinking of the felly and when this condition occurs it requires a special shop and special machinery to repair.

When oversizing the tires, care must be exercised that the proper sized rims are furnished. A solid tire overhanging a rim more than three-quarters of an inch will soon break down.

The experiments conducted by several companies show that four antiskid chains on each rear wheel will give all the traction necessary and at the same time produce the least tire wear.

All trucks should be equipped with a first class hubodometer which can not be tampered with. A careful record of daily odometer readings is the only method by which drivers, cost of delivery, etc., can be accurately determined and checked.

The table attached to the specifications gives the maximum speeds at which governors should be set on the trucks of various capacities under the best operating conditions. These may have to be changed under certain road conditions. The National Automobile Chamber of Commerce has recommended speeds varying from 3 to 5 miles per hour less than those shown in the table. For instance it recommends a speed of 14 miles per hour on the 1½-ton truck and 7 miles on the 7-ton, and further recommends that, when these speeds are exceeded to any great extent, the truck manufacturer should withdraw the warranty. All right-minded men will agree on one thing, and that is that no truck should be operated on city streets or other places of congested traffic at such a speed that its momentum will be great enough to endanger its being under perfect control at all times. The maximum speed of any truck is dependent upon the piston speed of the engine. The gear ratio of nearly all trucks is such that speeds greater than those shown in the table can not be attained without increasing the piston speed to such an extent that the vibration becomes excessive. The increased speeds for trucks equipped with pneumatic cord tires are more or less theoretical at the present time, but have been shown in the table low enough properly to protect the truck mechanism and other vehicle traffic and pedestrians. The more conservative engineers place this increase from 20 to 25 per cent., others say 50 per cent. and some over-enthusiastic salesmen will tell you that you can safely increase it 75 to 100 per cent. The fact that the pneumatic tire is of a greater diameter than the corresponding solid tire used on the same truck will give a slight increase in speed.

One thing is certain: you can not overload, overspeed, under-tire, under-maintain or under-inspect your trucks without paying the penalty by deducting from the profit side of your ledger.

There is no question that the enormous depreciation and repair bills of gasolene distributing trucks in the past have been, in a large measure, due to their being driven at excessive speeds when empty or with a partial load which is continually shifting.

Within the last few days I witnessed one of the 2-ton trucks of a large oil company driving through the principal business street of one of the largest eastern cities at a speed of more than 20 miles per hour. The rear wheels struck a street-car crossing with such force that they left the ground at least 4 to 6 inches and one of the filling openings which was without a plug slopped out a considerable amount of gasolene.

Front bumpers and radiator-guards will help greatly to reduce repair bills. The books of one company reveal the fact that over a period of several months more than 20 per cent. of its repair bills were for accidents to unprotected radiators.

The book records of another company show that, where it had several trucks of the same capacity and similar construction operating over similar routes, those with four forward speeds have a lower maintenance cost than those with three speeds.

When trucks are operated over country roads, there is always more or less towing, not because they are disabled but for the reason that they become mired, get into deep holes, or off the road and partially into ditches. The attaching of towing cables to differential housings, front axles, spring ends and similar places is bad practice and often wrenches the truck badly, particularly when loaded. For this reason towing eyes or hooks should be permanently attached to the frame when the truck is being built.

The cab, windshield, curtains, etc., are not usually included with the chassis, but it is very desirable that they should be.

Several companies have tried buying chassis at one place, cabs, windshields, etc., wherever they can be purchased most economically, and assembling the several parts themselves. This has in nearly every case resulted in a final increased cost, a delay in getting the truck into service and more or less misfits. The simplest and best method is to have the successful bidding company furnish everything completely assembled.

The fire hazard is of such magnitude that no one should consider equipping a truck to be used in handling petroleum products with gas or oil lamps. There are some chassis on the market unequipped with an electric lighting system. A complete system including the generator and battery should be included. This should be installed before the truck leaves the factory with the wiring in conduit and the entire system should be carefully looked over to be sure that the wiring is so installed that there is no opportunity for the occurrence of a "short" or "ground."

It has not, as a general thing, been found advisable to provide trucks with electric starters. Drivers as a rule abuse them. In one fleet of 16 trucks housed in a garage in which the heating plant went out of service on a cold night, the drivers the next morning ran down thirteen batteries by sitting in the seat and turning over the starters rather than get out and use a crank. Battery men believe that, on account of the lights being used so little, a starter should be supplied, if for no other reason than to

(*Continued on page* 66.)

MAXIMUM LOADS IN POUNDS FOR SINGLE SOLID AND PNEUMATIC CORD TIRES FOR MOTOR TRUCKS AS RECOMMENDED BY THE PRINCIPAL TIRE MANUFACTURERS.

(Figures in bold-faced type show the loads most frequently recommended.)

Inflation Pressure in Pounds	SIZE OF TIRES IN INCHES.											
	3	3½	4	4½	5	6	7	8	9	10	12	14
Solid	1,000	1,000 **1,300**	1,500 **1,700**		2,000 **2,500** 2,600 2,650	3,300 **3,500**	4,200 **4,500**	5,000 **5,200** 5,600		6,150 **7,000** 7,500	8,500 **8,900** 9,500	10,600 **11,500**
60			**850**	1,020	1,400							
65				1,080	1,500							
70				1,140	1,550	1,800						
75				**1,200**	1,600							
80					**1,700**	1,800 **2,000**	2,500	3,175				
90						2,000 **2,200**	2,450 **2,700** 2,775	3,450		4,000		
100						2,000 **3,000**	2,700 **3,000** 3,725	3,350 **4,350**		5,000		
110						2,400	2,950 **4,000**	3,650 **4,000** 4,675	4,300	5,300		
120							3,200	3,950 **5,000**	4,650 **5,000**	5,350 **5,650**		
130								4,250	5,000	5,800 **6,000**		
140									5,350	6,250		
150										6,700		

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As Makers View Business

Manufacturers of Trucks and Parts Find Many Reasons for Optimism After Viewing Business Conditions as Reflected in Their Individual Situations

No Reduction in Output

To the Editor.—There has been a certain tightening of conditions, which, from our viewpoint, is strictly financial. This seemed to evidence itself about the first of July in a small way and has been increasing to a certain extent ever since. I don't believe that the lack of extension of credit by the banks is limited to any one business. I am of the opinion that all lines of business have been asked to curtail and the general curtailment has been felt through our industry. For instance, we sell a great many trucks for building construction; the banks refusing loans for additional building has naturally had a tendency to retard the truck business in that vocation. The same is true of many other vocations. We all know of the many reports that have been circulated of the action of the Federal Reserve Board and as near as I can ascertain this has not been aimed at any one business, but all business in general. We have not as yet reduced in any way our labor employed or production.

FEDERAL MOTOR TRUCK CO.,
M. L. Pulcher, *Vice-Pres. and Gen. Mgr.*
Detroit, Mich.

No Complaint of Business

To the Editor.—The worst spot we have in America is your city of Chicago, where business seems to be hard to get in the truck line. We have no complaint to make on business up to the present time, while it has not been as good as we expected or as good as we had planned on.

KELLY-SPRINGFIELD MOTOR TRUCK CO.,
James L. Geddes, *Pres.*
Springfield, O.

No Occasion for Pessimism

To the Editor.—In a general way we have not suffered in any particular in the matter of curtailment. We, of course, had a slacking off on the part of some of our customers, which is a condition we always face during the summer months, owing to the fact that our large customers take inventory and prepare to get back into their larger production by September 1. We have not had any indications which, in our minds, should merit the pessimistic views expressed in various periodicals

HAYES WHEEL CO.,
C. B. Hayes, *Pres.*
Jackson, Mich.

Will Increase Capacity 100 Per Cent.

To the Editor.—We find that cancellations with us have amounted to 10 per cent. of the business on hand. We have extended delivery on 50 per cent. of the business on hand, but at the same time we are operating our plant to 90 per cent. of its scheduled capacity, and are not at all worried about the future of the automotive industry. We recall very well the situation that prevailed immediately after the signing of the armistice and the subsequent action on the part of our customers demanding heavy delivery. Our directors have decided to continue our policy of expansion, which has been to increase our capacity each year 100 per cent. over the year previous.

HARTFORD AUTOMOTIVE PARTS CO.,
J. T. Garrity.
Hartford, Conn.

Keep on Advertising

To the Editor.—While there have been persistent rumors of serious curtailment of sale and production of motor trucks, passenger-cars and their parts, there have also been the same rumors of curtailment in other businesses; for instance, hats, shoes, caps, foodstuffs; and I don't know why we all get excited just because the automobile industry once in a while is said to be not quite as good as it has been. We must have our seasons.

So far as our own company is concerned, our credit has not been curtailed, our production has not been reduced, and our sales are keeping up in good shape. The trouble is that some concerns have been overtrading their capital and now they are becoming pinched, and I do not know but that it is a good thing for the industry that they are. To my mind, there have been a good many people, as well as concerns, who felt as though they could just jump right out of the business they were in and get into the automobile business and make their fortune. We believe in advertising and we are going to keep on advertising, and if concerns will do that in a broad-gaged way, the public will not lose confidence in the ultimate success of the industry.

AUTOCAR CO.,
David S. Ludlum, *Pres.*
Ardmore, Pa.

Shipping More Trucks Than Ever

To the Editor.—Business has been hurt and there has been a curtailment both in production and in sales of motor trucks and cars, and it is due to the action of the Federal banks in curtailing credits. It must be admitted that we were traveling pretty fast and, under such circumstances, speed checked by the proper application of the brakes isn't always a bad thing. In the light of rumors and some facts with reference to general conditions in our line, our own situation is refreshing. We are shipping more motor trucks this month than for any month since October and our net sales will be for a greater number of trucks than any month since October. However, the trucks we are shipping and selling this month would have been shipped and sold some months ago had it been possible for us to get motors in sufficient quantity to have supplied the trucks. While we have had some cancellations and some curtailment because of the financial situation, yet, it has been in spots only and as we have a very wide distributing organization we don't look for any big curtailment and expect at this time to make the schedule that was planned many months before this curtailment spasm took hold of the country.

TRUCK MAKER.
Michigan.

Business Exceeds Last Year's

To the Editor.—There is a reduction in the output of a great many plants at this time, but that is a natural condition for this season of the year. Our experience of some seventeen years in the manufacture of automobile and truck axles shows that there is always a let-up in buying at this season of the year, unless there is an unusual condition such as last year, when production had been curtailed for several years due to the war. I am inclined to think that a great many manufacturers were led astray last year, and concluded that business would go through this year without any let-up; that they prepared very large schedules, and were very much shocked to find that the demand did not continue uniform throughout the year. As a matter of fact, our business for the first six months of this year very greatly exceeded last year's business, and we are quite confident that there will be a revival in the demand, particularly for trucks, during this fall. We are not at all depressed because of this let-up. It is a thing that is to be expected, and it is quite common in all lines of manufacture. I am optimistic; we look forward to a nice business during the last quarter of this year, and a very healthy business during next year.

It is true that the restriction of credit has had some effect on buying. We believe that there is still a very strong demand, and that buying is restricted somewhat, because banks have discouraged long-time payments for trucks and passenger cars, and this no doubt will lead to a more healthy condition.

The report as to a concerted program, "designed to show labor its place" is almost too ridiculous to call for denial. Can you imagine any business man being so stupid as to jeopardize his own business by joining with others to bring about a business depression, in order to punish its employees? I cannot imagine any man who occupies an important position in business being so short-sighted, as to even seriously think of any action of this kind.

The law of supply and demand is working in all lines. The banks did not deliberately turn their guns on the automobile and truck business, but they found that the supply of money was not sufficient for the demands that were being put upon the banks through unwise expansion, stocking up, and long-time sales. The banks, therefore, were compelled to call a halt because it was impossible for them to supply the demand. The law of supply and demand is working in the automobile and truck business. There are bound to come seasons in every line of business when the purchasers' demands are fairly well taken care of, and that same law of supply and demand is the one that is controlling the present situation.

TIMKEN-DETROIT AXLE CO.,
A. R. Demory, *Pres.*
Detroit, Mich.

Most Optimistic as to Future

To the Editor.—We are most optimistic in our views of the future of the motor truck industry. We feel that business concerns must use more trucks by reason of transportation difficulties, and we really believe motor trucks will be the solution of the present financial situation, as they will deliver materials and enable business concerns to keep the capital invested in stocks on hand at the minimum.

SERVICE MOTOR TRUCK CO.,
Mole Cook, *Secy.*
Wabash, Ind.

Best Month Since War

To the Editor.—The reputed slump in the automobile business has not affected our business, and there is no indication that it is likely to do so in the near future. During August we produced and sold more machines than in any month since the war, while in volume of business done—measured in dollars—the month far eclipsed any month in our history.

Dealers' orders for cars and trucks for September delivery are far in excess of the possible output of our plant, and consequently there is every indication that the extent by which September sales exceed those of August will be limited only by the ability of the factory to increase production.

Only twice before in the fifteen years we have been in the business have we shipped more vehicles during a single month than in August, and on these earlier occasions the exceptionally heavy shipments were made possible by an accumulation of stock during the winter months. We have not the slightest doubt that our sales in September could have been easily doubled if our production had permitted.

Our distributers, with practically no exceptions, are asking for their full contract allotment of both cars and Speed Wagons, and in many instances they are pleading for substantial increases.

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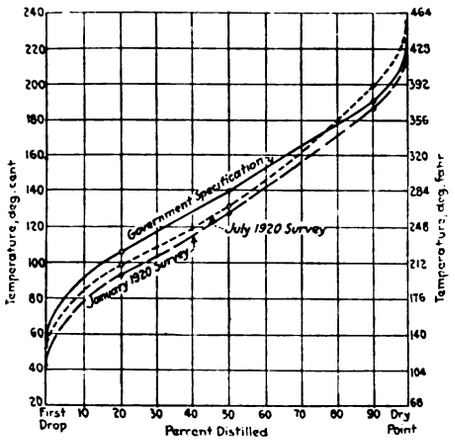
We have more employees on our pay-roll now than at any previous time. Exclusive of our branches—which employ an additional 500 persons, approximately—we have now about 5,200 employees. We are highly gratified at the conditions which are reported by our distributers from all parts of the country and are most optimistic concerning future business.

REO MOTOR CAR CO.,
R. H. Scott, *Vice-Pres. and Gen. Mgr.*
Lansing, Mich.

Rail Rates and English Trucks

In its recent report, the Railway Rates Advisory Committee of England states, regarding small parcels traffic, that "this traffic is costly to the railway companies, and is an uneconomical method of consigning goods." While the committee does not specifically indicate the alternatives, there is no doubt that, directly and indirectly, the effect of the authorized increase in the railway rates for this class of traffic of 150 per cent. will lead to a considerable proportion of parcels traffic being diverted to suitable road transport undertakings. In no branch of transport is the advantage of the partial or complete elimination of transhipment, which road transit gives, so apparent as in this.



Curves showing how gasolene samples compare with government specification.

Motor Vehicle Engine Gasolene Survey

By N. A. C. SMITH
Petroleum Chemist, United States Bureau of Mines

IT has been common knowledge in the petroleum industry that the volatility of the gasolene sold in the summer months is less than that of gasolene made and sold in the winter. A year ago, when the Bureau of Mines was making plans to institute semi-annual surveys of the gasolene sold throughout the United States, this fact was taken into consideration. It was decided that the last half of January would be the most satisfactory time to take samples representing the winter grade of gasolene and the last half of July was adopted as the time to take the summer samples. The second semi-annual survey has just been completed and the analytical results apparently show that there has been a greater decrease in the volatility of gasolene than can be accounted for as the normal change from winter to summer quality.

Eighty-two samples were collected from the seven cities of New York, Washington, Pittsburgh, Chicago, New Orleans, Salt Lake City and San Francisco, as was done in the first semi-annual survey conducted in January of this year. To indicate just what changes have taken place in the gasolenes from the several cities the averages have been compared in the accompanying tables, and in the form of curves which are also shown. On comparing the average for the whole country with the similar average for January, 1920, and with the federal specification, it will be noted that the distillation curve for July, 1920, practically parallels the January curve up to about the 75-per cent. point. It is considered probable, therefore, that the change in volatility up to this point is due to the normal variation from winter to summer quality. Above the 75-per cent. point, the whole curve rises very rapidly and crosses the curve of the specification for federal purchases. Part of this rise is undoubtedly normal, as representing the usual seasonal change in quality, while part of the increase is due to a few samples which contained much kerosene, thus raising the average of the whole series.

These two factors, however, are not sufficient to account for the entire rise in boiling-points. The remainder is probably due to the increase in demand for internal-combustion engine fuel over previous years. To obtain sufficient gasolene to supply this demand it has evidently been necessary for the refiners to cut deeper into the crude oil, thus adding somewhat to the amount of high-boiling fuel marketed as gasolene. That there has been an increase in demand is evidenced by the following table showing the domestic consumption of gasolene for the first five months of 1919 and 1920. These figures are taken from the refinery statistics compiled by H. F. Mason, petroleum economist of the Bureau of Mines.

DOMESTIC CONSUMPTION OF GASOLENE IN GALLONS.

	1919.	1920.
January	169,256,877	238,204,518
February	185,900,192	248,395,214
March	201,004,317	256,020,539
April	243,440,615	297,001,120
May	328,277,648	378,912,672
	1,127,879,649	1,418,534,063

Increase..290,654,414 gal., or 26 per cent

At least two samples showed evidence of being adulterated with kerosene, while four other samples have end-points above 475 deg. Fahr., which indicates very careless refining, if not actual adulteration. Most of the samples, however, come very close to the average curve. Taken as a whole, the net change in quality is best represented by the increase in the average boiling-point of the gasolenes, which is given below.

CHANGE IN AVERAGE BOILING-POINT.
(Temperature in degrees Fahrenheit.)

City.	January, 1920.	July, 1920.	Increase.
Chicago	270	275	5
San Francisco	262	270	8
New York	261	272	11
Washington	267	279	12
Salt Lake City	270	286	16
Pittsburgh	257	275	18
New Orleans	254	285	31

The average boiling-point also indicates which cities are obtaining the most satisfactory gasolene. From this standpoint, San Francisco is first with an average boiling-point of 270, New York is second, Pittsburgh and Chicago are tied for third place and Washington, New Orleans and Salt Lake City follow in the order named.

AVERAGE RESULTS OF GASOLENE SURVEYS.
(Temperature in degrees Fahrenheit)

District.	Survey.	First Drop.	20 Per Cent.	50 Per Cent.	90 Per Cent.	Dry Point	Average Boiling-point.
New York	January	121	204	256	354	418	261
	July	132	210	263	373	432	272
	Difference	+11	+6	+7	+19	+14	+11
Washington	January	125	200	255	381	439	267
	July	131	200	273	396	449	279
	Difference	+6	none	+18	+15	+10	+12
Pittsburgh	January	100	182	256	375	425	257
	July	128	196	263	400	454	275
	Difference	+28	+14	+7	+25	+29	+18
Chicago	January	116	199	262	381	445	270
	July	142	203	259	399	455	275
	Difference	+26	+4	—3	+18	+10	+5
New Orleans	January	128	206	258	354	424	254
	July	138	223	280	383	445	285
	Difference	+10	+17	+22	+29	+21	+31
Salt Lake City	January	113	204	266	386	440	270
	July	126	212	279	406	456	286
	Difference	+13	+8	+13	+20	+16	+16
San Francisco	January	130	212	258	347	406	262
	July	124	214	264	362	428	270
	Difference	—6	+2	+6	+15	+22	+8
All Districts	January	119	200	259	369	427	264
	July	130	208	268	388	456	277
	Difference	+11	+8	+9	+19	+29	+13
Federal Specifications.	Nov. 25, 1919	140	221	284	374	437	...

Ford's Daily Output Increases

Production at the Ford plant has recently exceeded 4,000 vehicles a day and has reached a point where an average daily output of more than that number is expected. Truck production is said to be running about 450 vehicles daily and that of tractors nearly 400.

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Mechanical Truck Auditor Keeps Accurate Tab on Machine and Man

A new device, designed to provide an accurate and reliable record of the daily operations of motor trucks, has been announced by the Ohmer Fare Register Company of Dayton, Ohio. It will be known as the Ohmer Truck Auditor.

Within a small metal case, attachable to the dash of any motor truck, is the mechanism required to furnish a daily indelibly-printed record of mileage, times, loads, etc., the complete equipment weighing but seven pounds. Each sheet tells who drove the truck in question, the number of the "auditor," the date, when the day's work began, when it ended, how far the truck was driven, the mileage and time for each trip, the time of each stop, the weight of each load, whether or not the engine was running during the stop, the mileage of each trip, the number of each trip, the time taken to load and unload, when and what tires were replaced and the time required to make the change, when repairs were made and who made them and how long it took, when and how much gasolene and oil was taken on, the average mileage per gallon of gasolene or oil, the time the truck was idle, the number of trips made, and other information depending upon special requirements of the truck owner.

One of the accompanying illustrations shows a typical record in reduced size. Reading from the bottom upward the first horizontal line of figures at bottom shows that driver number 192 started to work at 7 a. m. on January 30, on truck No. 499, with the mileage record at 21,288.5. The next line of figures shows that at 7:10 a. m. 5 gallons of gasolene had been taken on at the starting point, as no change of mileage is indicated. Three pints of oil were put in the engine and the driver started for his loading point at 7:22 a. m. He went one-half mile (note advance in mileage). It took him 28 minutes to go the half-mile, and this at once raises the question as to why it took him so long.

Removing the record from the "Truck Auditor."

He started loading at 7:50 a. m., and finished at 8:36, having loaded 2 tons. He then drove 3.7 miles and began unloading at 9:14, finishing the unloading of 1 ton, with engine stopped, at 9:46. He drove 1.5 miles further and unloaded another ton between 10:23 and 10:53, taking too much time. He then drove 7.2 miles and stopped for lunch at 12:06 p. m. The truck remained idle until 12:56, when he set out

Mileage	Miscellaneous Data		Month	Day	P.PM A.AM	Hour	Minute	Machine Number	Drivers Number
21320.1	IDLE	0	JAN	30	P	5	12	499	192
21315.1	UNL'D	3	JAN	30	P	4	41	499	192
21315.1	UNL'D	0	JAN	30	P	3	54	499	192
21306.0	T.ON	34	JAN	30	P	2	56	499	192
21306.0	T.OFF	23	JAN	30	P	2	10	499	192
21301.4	LOAD	3	JAN	30	P	1	36	499	192
21301.4	LOAD	0	JAN	30	P	12	56	499	192
21301.4	IDLE	0	JAN	30	P	12	56	499	192
21301.4	IDLE	0	JAN	30	P	12	6	499	192
21294.2	UNL'D	1	JAN	30	A	10	53	499	192
21294.2	UNL'D	0	JAN	30	A	10	23	499	192
21292.7	UNL'D	1	JAN	30	A	9	46	499	192
21292.7	UNL'D	0	JAN	30	A	9	14	499	192
21289.0	LOAD	2	JAN	30	A	8	36	499	192
21289.0	LOAD	0	JAN	30	A	7	50	499	192
21288.5	OIL	3	JAN	30	A	7	22	499	192
21288 5	GAS	5	JAN	30	A	7	10	499	192
21288.5		0	JAN	30	A	7	0	499	192

A typical "Auditor" record.

for another load, arriving at the loading point at 1:36 and taking on 3 tons. He drove 4.6 miles in 34 minutes, when it became necessary to change a tire. Tire No. 23 was taken off and No. 34 was put on, the operation taking until 2:56, when he proceeded with his load a distance of 9.1 miles, unloaded his truck between 3:54 and 4:41 p. m. He then returned to the garage at 5:12 p. m., a distance of 5 miles.

Each driver is provided with an identification key This key bears his number cut in steel type, and must be inserted in the machine before it is possible for him to make his opening statement or even to start the engine. After inserting the key he turns the knurled knob at the right and the opening statement is printed. This operation automatically releases the motive power and the truck can be started. The letters or figures appearing in the data column are under the control of the driver who sets the proper hand dial at the left of the machine before printing the record. As the data printed in this column can be easily checked either as to time or mileage, no temptation toward falsifying is offered.

When the driver stops his truck for loading, for tire changes, engine repairs, etc., and takes his print to record that fact, the engine is automatically cut off and can not be started again until another print is taken, showing the time consumed in the operation. If the driver fails to stop his engine when loading, that fact is at once evident from the record.

If the driver desires to remove his identification key for any reason, he must first print a closing statement. When the truck is again started, the opening statement as compared with the previous statement reveals the time the key was out. This gives exact information as to the extent of idle time, either during the night, or when the driver leaves the truck for lunch, etc.

Practically any data required can be incorporated in the report by using the various characters on the data hand dial and printing wheel. A record of weather conditions may be kept if desired.

Will Foster Motor 'Bus Service by Sales and Engineering Work

A new corporation, which will be devoted to fostering the use of motor 'buses throughout the country, has been organized and incorporated under the laws of the State of New York and will be called the Trackless Transportation Corporation. It will operate as a sales and engineering company. George R. Bidwell, who has been closely affiliated with the automotive industry since its inception, is president; Herbert Y. McMullen, vice-president; and Ezra C. Bull, secretary and treasurer. Mr. Bidwell's experience as a manufacturer and merchant dates back to 1880 when he was a wholesale and retail bicycle dealer in New York and was afterwards a partner of the Spaulding-Bidwell Company, sporting goods and bicycle merchants. He also has the distinction of being one of the first manufacturers of pneumatic tires in the United States. Mr. Bidwell was one of the owners and founders of the North American Motors Company of Pottstown, Pennsylvania, manufacturer of motor truck and passenger car motors. Mr. McMullen has also had many years' merchandising experience and has devoted several years to the development of motor 'buses and trackless transportation equipment. He spent some months in London studying the 'bus conditions there and has been making a special study of vehicles which will be best adapted to passenger transportation under all conditions. Mr. Bull has been active in the automotive industry in New York for several years, connected with Lozier and Hudson interests.

This new company will put on the market an especially designed motor 'bus, which is intended to meet the exacting requirements of a vehicle of this character and will be in no sense a motor truck chassis converted to carry a 'bus body, but will be a vehicle the result of expert and accurate data acquired through several years' study of the problem. The Trackless Transportation Corporation is now making contracts for the manufacture of the new 'bus.

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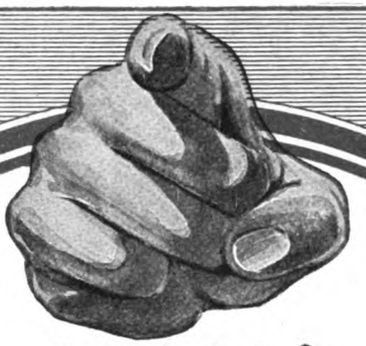

YOU!

Mr. Dealer in 1930

WHAT will your truck tire business be ten years from now?

Will your establishment have prospered by your business foresight and good buying judgment?

Build your foundation *now* on the bed rock of success by stocking the two biggest sellers on the truck tire market today.

THE NEW MONO-TWIN—a grainless, non-splitting, solid truck tire on a single large base, possessing all the advantages of both the single and dual, without the disadvantages of either.

"NOBBY" CORD—the pioneer pneumatic truck tire—a sturdy-heavy-duty tire that guarantees your trade a saving in every phase of truck operation.

Stock now for a big demand.

'Nobby Cord'

Mono-twin

United States Tires are Good Tires

US

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Army's Motor Transport Policy

Chief of the Motor Transport Corps Announces Plan by Which the Army Can Be Quickly Supplied with Large Numbers of Standardized Motor Vehicles

GOVERNMENT manufacture in peace time and private manufacture in war time of standard types of motor trucks, designed by the Engineering Branch of the Motor Transport Corps in coöperation with the Society of Automotive Engineers and of the industry as a whole, is the central idea of the present policy of the United States army with respect to military motor wagons, as recently announced by Brigadier-General C. B. Drake, chief of the transport corps. Under the Army Reorganization Bill passed by Congress the Motor Transport Corps has been consolidated with the Quartermaster Corps, and it is expected that the fullest coöperation will be developed between the two branches of the army in working out a constructive and harmonious program. The new policy is but an enlargement of the tentative recommendations voiced by Lieutenant-Colonel Orton early in 1919, when he stated that "the Motor Transport Corps recommends equipping the army with only standardized chassis, designed specifically for military service, and for limiting chassis models to the least possible number required by the services to be performed," and, with respect to bodies, "that all special bodies needed by the various services of the army be designed in conference with Motor Transport Corps engineers to apply to one or the other of the standardized chassis."

The army desires standardized chassis because they simplify the tremendous maintenance and spare-parts problem, they will necessarily conform more closely to military requirements than chassis designed for commercial use, and they simplify operation. In considering the vital objection to the standardized chassis program—can such chassis be obtained in sufficient numbers in peace and war times?—three points must be considered: (1) The peace army will never be more than a small fraction of the war army, and it is improbable that the army's policy will allow the accumulation in peace time of large stores of reserve equipment such as motor trucks; (2) a complete and unqualified standardized program for war is, therefore, impossible, for on the declaration of war great quantities of motor vehicles would be required at once; and (3) the ability of the industry to supply in such an emergency the required number of units of standardized design.

Two estimates of the army's needs have been made, considering such a conflict as that through which the army has just passed. One calls for 80,000 chassis in the first five months and 60,000 for the succeeding year. The other calls for 40,000 chassis for the first five months and 100,000 for the succeeding year. Assuming that all the designs have been worked out, that most of the assemblies of the standard trucks are commercial assemblies, that tools, jigs and fixtures are on hand for the others, that a definite plan of production is in existence, and that the industry will coöperate, standardized trucks can be put in quantity production in from four to six months after the outbreak of war. The problem is, therefore, that of obtaining 100,000 chassis between the sixth and seventeenth months after war is declared.

The standardized vehicles designed during the war were composed principally of assemblies which were also specially designed for government use. This was considered necessary for the reason that the manufacture of parts and assemblies suitable for military use had not then progressed to the extent that it has now. The great development of this branch of the industry in the past two or three years has led the corps to believe that satisfactory standardized trucks for military use can be constructed, using almost entirely standard commercial assemblies which are already in quantity production. The corps in any future designs or redesigns of standardized trucks plans to utilize as far as possible standard commercial assemblies. The facilities for quantity production of such assemblies are so great that there is nothing to fear in this line.

AN analysis of the ability of truck manufacturers to assemble the standardized trucks, as evidenced by their repies to a questionnaire, shows: (1) Out of 29 companies consulted, 18 were in favor of standardization, 3 expressed no definite opinion, and 8 were against it. (2) Of the 18 companies in favor of standardization, their estimates as to the quantity of standardized vehicles which could be produced in one year, after quantity production was started, with spare parts under war conditions, assuming tools and fixtures on hand, taking average figures throughout, totaled around 80,000 vehicles. Of the 3 companies not expressing any definite opinion, their estimate totaled 13,000 vehicles. Of the 8 companies opposed, their estimate totaled 59,000 vehicles. Of this last figure nearly two-thirds came from one company, and for this and other reasons, this last estimate is considered rather uncertain. It would certainly be safe however to count on 25,000 to 30,000.

The sentiment of a large majority of the industry is in favor of standardization and an estimate of production possibilities aggregating considerably more trucks than the army will need, even under the less favorable of the two estimates given above, for the critical period beginning five months after the outbreak of war and extending for a year thereafter. This strikingly satisfactory response of the industry confirmed the Motor Transport Corps in its opinion of the desirability of the standardization program. But, as stated, it must be supplemented in some way to fill the great demand for vehicles, totaling 40,000 by the above estimate, in the months at the beginning of war before quantity production of standard vehicles can be begun.

The policy recommended by the chief of the Motor Transport Corps is, therefore, that government-designed standardized trucks be adopted as standard for the army. These are to be designed by the Engineering Branch of the corps, with the assistance and coöperation of the Society of Automotive Engineers and of the industry as a whole. Standardized trucks are to be manufactured for the government in time of peace in such quantities as are necessary for replacements. The quantities so needed can not be told precisely but will probably amount to several thousand a year. On the declaration of war arrangements will be made with those elements of the industry which are most suitably equipped for the work to start at once on the production and assembly of standardized vehicles. Quantity production on them will be pushed to the utmost with a view to equipping the army with these trucks in the critical period beginning around five months after the outbreak of war, when the great bodies of newly organized troops, demanding tremendous quantities of equipment, are beginning to appear on the field of battle to supplement the first line.

In the meantime, to fill in the gap before quantity production begins, there will have been prepared in time of peace an "Alternative Standard List," consisting of those commercial vehicles which by peace-time tests have been shown to be most suitable for army requirements. It is desired to hold such tests from time to time, perhaps yearly, and to invite all builders of trucks to compete in them. On the basis of the tests, a limited number of makes of truck will be approved as alternative standards for government use, and satisfactory for purchase and use in the army until the standardized vehicles are available. It is these trucks the army would purchase, or commandeer, or both, at the beginning of war, in sufficient quantities to fill the immediate needs and equip the first army units.

THE standardization of body design is a matter of great importance to the army, but of much less importance to the industry than the first question. Of the number of bodies for cargo and special motor vehicles designed and constructed for the army during the war, there were few, if any, which presented peculiar problems of construction calculated to embarrass the manufacturer. The chief difficulty in this line has been that there were so many varying types. The Engineering Branch of the corps has developed a system of close coöperation between all branches of the service and has given particular atten-

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Making the Motor Truck Dealer Successful

By E. A. SAMELS

Assistant Sales Manager, Four Wheel Drive Auto Company

WHAT are the requisites of a successful truck dealer? To answer this question it is, of course, necessary to determine what comprises a dealer's obligation to his customers, to his "prospects," and to the manufacturer whose product he is selling. Upon the manner in which he measures up to the requirements necessary in carrying on this business depends to a very great extent his success or failure as a truck distributer.

Our company has a good definition of the factors that make for a successful distributer of its product. There are certain fundamental requirements that every truck dealer should be familiar with in order to lay the groundwork for a permanent and prosperous business. Our definition of a dealer embraces the following points: He is one "who has engaged permanently n the sale of FWD trucks; who carries at all times an adequate stock of FWD parts; who understands the application of FWD trucks and knows the proper equipment to be recommended; who supplies owners with reliable mechanical knowledge and skill in the operation and repair of FWD trucks."

This definition has been put out on a handsomely printed placard and sent by the company to every one of its dealers and distributers to be hung in their display rooms as a constant reminder of the factors that will help them establish a business of quality in their community. It might just as well read, "A successful dealer is one who," etc., for while the definition refers specifically to an FWD dealer, it is applicable to virtually every distributer of motor trucks. The points brought out in the definition are ones that deserve careful consideration. An analysis of these rules would indicate that they are a foundation upon which any truck distributer can build up a permanent and successful business that would prove profitable to himself and to the company he represents.

"Permanence" is given first consideration in the definition. The motor truck is on the market to stay; there is no doubt about that. Selling trucks is a permanent business. Therefore, the dealer who establishes his business as a permanent institution in a community is the man who will come out ahead. By locating permanently as the representative of a quality product he makes a strong appeal to the quality buyer, who is invariably an established institution or individual in the community and who will only deal with established concerns. The quality buyer is usually looking for a quality product, handled by a quality dealer—one who has a well-established place of business, regular business hours, and who practices straightforward business methods.

A prospective truck buyer knows that, no matter how good a truck is, it will eventually require spare parts and repair work. The dealer who has an established place of business and a standing in the community will enjoy more sales through his prospects' knowledge that he has years of faithful service behind him. Permanency not only places a dealer in a position to deal most advantageously with the home company but wins him the favorable consideration of the banking interest with which he does business.

The second point says that the successful dealer is one "who carries at all times an adequate stock of FWD parts." Until indestructble material of limitless strength shall be invented certain parts of a motor truck will wear out. The maintenance of a stock of parts is necessary to give proper service. Truck owners, like other people, will not patronize the man whose goods are never in stock but are always "coming in a few days." By maintaining a stock of parts the dealer is in a position at all times to gain the good-will of owners of his product, as well as reap available profit.

Paragraph three of our requirements provides that a dealer shall understand the application and know the proper equipment to be recommended with his product. This is an important feature of a successful dealership. When a dealer thoroughly understands the adaptability and limitations of his product and knows the proper equipment to recommend for certain jobs he has accomplished much in the direction of a satisfied customer. Many dealers in their overanxiety to make a sale entirely overlook the restrictions which the natural limitations of material place on the truck. Warnings and implorations of the manufacturer are often ignored. Trucks are sold to carry more than their rated capacity. Everything about the truck is oversold to the "prospect" who, in good faith, loads it with tasks under which it can not stand the strain. The result is a dissatisfied owner and grief for the dealer. Thorough knowledge of the adaptability of the truck and a knowledge of the proper equipment for the work to done, therefore, are two points on which a dealer should be thoroughly informed.

The last requirement specifies that a dealer shall be able to supply to owners of his trucks reliable mechanical knowledge and skill in the operation and repair of them. The man who buys a truck does so because he hopes to make money by its use. He can only make money while the truck is in operation. He has a right to expect and to look to the dealer to furnish the mechanical knowledge and skill which shall keep his truck in continuous operation and in the best possible condition at all times. In order to be able to furnish this knowledge and skill in repair and necessary instruction to customers there must be preparation on the part of the dealer. He must make a study of his product and its operation requirements as well as of his customers' needs.

In coöperating with the dealer in this respect we conduct a school of instruction to which every one of our dealers is required to send a service man to complete a course on the operation and care of FWD trucks. This course embraces not only a study of the theory of construction but actual work on the various units under the direction of the instructor.

The truck distributer is an important arm of the truck industry. It is the dealer, who has a permanent interest in the truck industry, who carries an adequate stock of parts for the benefit of his owners, who understands the application of his product and the proper equipment to recommend with it and who provides his customers with reliable mechanical knowledge and skill, that will play an important part in the future growth of the entire industry.

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tion to body design. Already some forty special types have been eliminated and replaced by other standardized types, and much more progress along the same line is expected. A limited number of special designs will greatly facilitate production in large quantities and will reduce the amount of departmental routine.

In the matter of such parts and accessories as storage batteries, spark-plugs, magnetos, hub-odometers, electrical instruments, etc., the general policy of the corps is to devise specifications which shall be principally performance tests, limiting as little as possible the initiative of the manufacturer in using any form of construction which he sees fit, provided it conforms to S. A. E. standards, to obtain his results. An approved list will be made up from those which pass satisfactorily the tests specified, and no purchases will be made except from this list. Satisfactory specifications have already been developed for tires and spark-plugs, and work is now progressing on storage batteries, magnetos and hub-odometers.

Attempts have been and will be made to have the corps' standards adopted by all branches of the army using similar equipment. These, it is hoped, will be attended with success in the interest of simplicity in the army's dealings with manufacturers.

Trucks in Lieu of Mail Cars

Street-cars now used in the postal service will soon be supplanted by motor equipment, according to Thomas J. Mallalieu, assistant superintendent of the division of postal service, and George C. Baker, of Washington. Mr. Mallalieu said the entire postal service would soon be motorized, Congress having transferred thousands of army trucks used during the war to the postal department, and it is the intention to use motor equipment in the delivering of mail from the railroad stations to the post office and to all suburban stations. With motor equipment, Mr. Mallalieu stated, mail delivery would be more prompt.

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500—2,000 (Nash) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	500 Pounds:																			
1	Pony	$320	Own	4	2¾x4-12.1			T	C, Own		Stromberg		Atwater-K			F, 3				1
	1,000 Pounds:																			
2	Belmont, A	1,150	G B & S-A	4	3¾x4½-22.5	S	Pierce	T	C. Modine	N	Zenith	G	B	Y	P, G B & S	S, 3	Grant-Lees, K	N	Sterling	2
4	Croce, 17	825	Wisconsin	4	3¾x5-16.9						Zenith		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			4
5	Dodge	1,085	Own	4	3¾x4½-24.2	FS		P	T		Stewart		B, Northeast		M	S, 3				5
6	Duryea, C	675			12.0	S	N				Kingston		M, Bosch							6
7	Seneca, M		Le Roi, C	4	3¾x4½-15.9	FS		T	C, Kunts	N	Schebler	G	BM, Bosch	Y	P, Borg & B	S, 3	Warner, B	N	Universal	7
8	Vim, 29	1,355	Own	4	3¾x4½-15.6	FS	N	T	T, McCord	N	Zenith	G	B	Y	P, Own	S, 3	Own	N	Spicer	8
	1,200 Pounds:																			
9	Champion	1,100	Herschell-Spil	4	3¾x5-19.6	S	N	T	C, Jamestown	N	Zenith	G	B	N	P, Borg & B	S, 3	Grant-Lees	N		9
	1,500 Pounds:																			
12	Conetsoga, 12	1,850	Continental, N	4	3¾x5-19.6	FS		T	C, Fedders	N	Stromberg	G	M, Simms	Y	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	12
13	Dispatch, G	1,200	Wisconsin	4	3¾x5-22.5	F		T			Rayfield		M, Bosch			4				13
15	Elmira, C	500	Perkins	4	3¾x4-15.6		N	T	C, Bush		Zenith		Atwater-K		C, Own	S, 2	Own		Own	15
16	Geneva, 1		Beaver	2	5¼x5½-22.1		N				Schebler		M, Simms		P, Warner	P, 2				16
17	GMC, 16		Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	17
17a	H. R. L., L	2,400	Hers'l-Spill. 7000	4	3½x5-19.6	F	N	T	T, Fedders		Zenith	G	M, Bosch		P, Own	S, 3	Covert		Spicer	17a
18	International, H	1,850	Own	4	3¾x5½-19.6	FS	Own	P	T, Long.McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	18
19	Kearns, H	1,400	Hers'l-Spil 7000	4	3¾x5-19.6	FS	N	T	C, G & O	N	Zenith	G	B	Y	P, Borg & B	S, 3	Grant Lees, K	N	Peters	19
20	Kissel, General Delivery	2,175	Own	4	3¾x5½-24.0	S	Pierce	P	T, Sparks-W	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	20
20a	Marshall		Lycoming	4	3¾x5-16.9				C			G			Hartford	S, 3				20a
21	Old Hickory, M	995	Lycoming	4	3¾x5-16.9		N	T	C, Candler				Connecticut	Y	C, Lycoming	S, 3	Grant-Lees		Thermoid	21
22	Oldsmobile, Ecomony	1,500	Own	4	3 11/16x5½-21.7	F	N	P	C, Own	N	Zenith	G	B	Y	C	S, 3	Warner	N	Spicer	22
23	Patriot, Revere	1,990	Continental	4	3¾x5-22.5	S	N	T	C, B & W	N	Stromberg	G	B	Y	P, Borg & B	S, 3	Covert, MA	N	Thermoid	23
24	Rainier, R11	2,150	Continental N	4	3½x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	24
25	Reo, F	* 1,385	Own	4	4¼x4½-27.2	FS	N	P	T, Own	N	Johnson	G	B	Y	M, Own	S, 3	Own	N	Own	25
25a	Shaw, M2	1,975	Continental, N3¾	4	3¾x5-22.5	FS		T	T		Zenith	G	M, Bosch		M, Brown-L	S, 3	Brown-L		Spicer	25a
26	Stewart, 11	1,350	Le Roi, 2C	4	3¾x4½-15.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	Y	P, Borg & B	S, 3	Durston 02500B	N	Hartford	26
27	Texan	1,495	G B & S	4	4¼x—28.9	F					Carter		M, Delco		M, G B & S	S 3	Grant-Lees			27
28	Triangle, AA	1,600	Herschell-Spil, 4	4	3¾x5-16.9	S	N	T	C, Perfex	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU¾	N	Detroit	28
29	Watson, 21		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, G & O	N	Johnson	G	B	Y	M, Brown-L	S, 3	Brown-L, 35	N	M & E	29
30	White, 15	2,400	Own	4	3¾x5½-22.5	FS	N	P	C	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	30
30a	Winther, Deliv'y Spec'l	1,795	Herschell-Spil	4	3¾x5-19.6	F		T	T		Stromberg	G	B	Y	M, Warner	S. 3	Warner	N	Peters	30a
	2,000 Pounds:																			
31	Acason, R	2,400	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N	Blood	31
32	Acme, B	2,175	Continental, N	4	3¾x5-22.5	FS	Duplex	T	C, G and O	N	Rayfield	G	M Eisemann	N	P, Borg & B	I, 3	Cotta, BUC	N	Blood	32
33	All-American	1,795	Herschell-Spil	4	3¾x5-19.6	FS	Pharo	T	C, Standard		Stromberg		M, Simms		M, Detlaff	I, 3	Cotta		Universal	33
34	Apex, C	1,745	Buda, RU	4	3¾x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	B, Auto-Lite	N	M, Fuller	S, 3	Fuller, TU¾	N	Detroit	34
34a	Armleder, 20		Buda CTU	4	3¾x5½-22.5	F		P	T, Long		Zenith	G	M, Bosch		M, Fuller	S, 3	Fuller		Spicer	34a
35	Atco, IG10	1,875	Buda, WU	4	3¾x5½-22.5	F	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	Y	Hartford	35
35a	Atlas	1,765	Lycoming	4	3¾x5-19.6	S	N	T	C, Jamesto'n	N	Marvel	G	B	Y	P, Borg & B	S, 3	Own	N	Sterling	35a
36	Belmont, B	1,950	G B & S, AA	4	3¾x5-22.5	S	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	P, G B & S	S, 3	Grant-Lees, 515	N	Sterling	36
37	Bessemer, G	1,825	Continental, N	4	3¾x5-19.6	S	N	T	C, Ideal	N	Zenith	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	37
37a	Bethlehem, K	1,695	Own	4	3¾x5-19.6	F	N	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Spicer	37a
37b	Birch	1,595	Victory	4	3¾x5-19.6	FS		T	T, Chicago		Stromberg	G	Connecticut		M, Fuller	S, 3	Fuller		Uni. Mch	37b
38	Briscoe, T34	1,550	Own	4	3¾x5-18.2	F	N	T	T, Perfex	Y	Buick	G	Connecticut	Y	C, Own	S, 3	Own		Universal	38
38a	Chevrolet, T	1,325	Own	4	3 1/16x5½-21.7	FS	Monarch	P	Harrison		Zenith	G	Remy		C	S, 3	Warner		Arvac	38a
40	Chicago, C1	2,200	Hercules, CU2	4	3¾x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	40
41	Clydesdale, 32C	2,375	Own	4	3¾x5½-22.5	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	41
42	Collier, 18		Continental	4	3¾x5-19.6		Monarch	P	T, Long		Zenith		M, Eisemann		M	S, 3	Fuller			42
43	Columbia, F	1,850	Continental, N	4	3¾x5-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, B	N	Spicer	43
44	Commerce, E	1,855	Continental, N	4	3¾x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	44
45	Conestoga, 20	2 100	Continental, N	4	3¾x5-19.6	FS		T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU¾	N	Sterling	45
46	Corbitt, E	2,200	Continental, N	4	3¾x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	46
48	Day-Elder, A	2,100	Continental, N	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	48
49	Denby, 12	2,400	Continental, N	4	3¾x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	49
50	Diehl, A	1,575	Continental, N	4	3¾x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Simms	N	P, Borg & B	S, 3	Durston, 02800		Hartford	50
51	Famous, B10	1,690	Continental	4	3¾x5-19.6		Monarch	T	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	51
52	Federal, SD	2 600	Continental, J-4	4	3¾x5-22.5	F	Pharo	T	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Own	N	Peters	52
53	Ford, T	545	Own	4	3¾x4-22.5	FS	N	T	T, Own	N	Kingston	G	M, Own	N	M, Own	P, 2	Own	N	Own	53
54	Fulton			4	3¾x5-19.6									Y	P, Borg & B	3				54
55	Gabriel, C	2,000	Buda	4	4¼x5½-28.9		N	P	C, G & O		Rayfield		M, Bosch		P, Borg & B	S, 3	Brown-Lipe		Spicer	55
56	Gary, F	2,100	Buda, WU	4	3¾x5-22.5	F	Pierce	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Blood	56
57	Giant, 15	1,950	Continental, N	4	3¾x5-22.5	FS	N	T	C, Ideal	N	Schebler	GK	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	57
58	GMC, 16		Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	58
59	Hahn, C	1,375	Continental, N	4	3¾x5-19.6	FS			T, Chicago		Stromberg		M, Eisemann		M, Detroit	S, 3	Detroit			59
60	Hal-Fur, C	2,000	Buda	4	4x5-25.6		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	60
61	Higrade, A18	2,100	Continental, N	4	3¾x5-19.6	FS	Simplex		C, Perfex		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller			61
62	Hoover, 15B	1,435	Continental, N	4	3¾x5-19.6	FS		T	C, Candler		Schebler		M, Splitdorf		M, Fuller	S, 3	Fuller			62
63	Independent (Ohio), F	1,685	Continental	4	3¾x5-19.6		Monarch	P	T, National		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	63
64	International, F	2,050	Own	4	3¾x5½-19.6	FS	Own	P	T, Long.McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	64
65	Jones, 31A	1,395	Continental, N	4	3¾x5-19.6	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Arvac	65
65a	Keystone, I	1,500	Own	4	3¾x4-18.2	S	Monarch	P	C, Own		Tillotson	G	Auto Lite		Own	S, 3	Own		Uni. Prod	65a
66	Kleiber, AA	2,600	Continental, C4	4	3¾x5½-22.5	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	66
67	Lone Star, 9		Victory	4	3¾x5-19.6	S		T	T, Chicago		Stromberg	G	Connecticut		M, Fuller	S, 3	Fuller		Thermoid	67
68	Menominee, Hurryton	2 080	Continental, N	4	3¾x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1	N	Spicer	68
69	Myers, 60	1,545	Lycoming	4	3¾x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	M, Mechanics	S, 3	Mechanics	N	Universal	69
70	Napoleon, 9	1,535	Victory	4	3¾x5-19.6	F	N	T	T, Chicago	Y	Schebler	G	B	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	70
71	Nash, 2018	1,895	Own	4	3¾x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 3	Detroit, C	N	Own	71

* Without seat.

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TRUCK SPECIFICATIONS

500—2,000 (Nash)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
1	C, Own	....	.....	2, R	.....	E,	R, Own	½, ½	Tuthill	.....	.....	L	Own	.....	W, Prudden	90	28x3p-28x3p	.....	.....	1
2	B, Flint	Y	B	2, R	9½, 9½	C, E	P	½, ½	Mather	7, 8	36¾x1¼-50x2½	L	Lavine	36, 0	W, E & O.	113	31x4p-31x4p	2,200	45, 75	2
4	B, Timken	....	.....	2, R	.....	C, E	P	.....	.....	.....	.....	.....	.....	.....	.....	108	32x4-32x4	.....	.....	4
5	B	....	.....	2, R	.....	.....	.....	.....	Detroit	.....	.....	.....	.....	.....	W	114	33x4p-33x4p	.....	.....	5
6		....	.....	2, R	.....	E,	P	C, T	.....	.....	.....	.....	.....	.....	W	86	36x3½p-36x3½p	.....	.....	6
7	B, Peru, 3050	....	B	2, R	9½, 8½	E, C	P	½, C	.....	6, 9	36x1¾-51x2	L	Ditweiler	.....	W	108	30x3½p-30x3½p	.....	.....	7
8	W, Sheldon, W500	Y	W	2, R	11, 10½	E, E	P	½, ½	Shelden	8, 7	38x2-50x2	L	C.A.S.	30, 10	W, Hoopes	108	31x4p-31x4p	2,175	40, 70	8
9	B	Y	B	2, R	10, 10	C, E	P	½, ½	.....	7, 8	36x2-50x2	L	.....	.....	W	114	32x4p-32x4p	1,900	50, 65	9
12	I, Torbensen, OX2	Y	B	2, R	9½, 10½	C, E	P, Savage	½, ½	Iron City	7, 9	36x2-48x2½	L	C.A.S.	44, 0	W, E & O.	124	32x4½p-32x4½p	2,800	50, 60	12
13	I	....	.....	2, R	.....	.....	.....	½, ½	Tuthill	.....	.....	.....	.....	.....	W	120	34x4p-34x4p	.....	.....	13
15	B, Own	....	.....	2, R	.....	E, E	R, Own	½, ½	Tuthill	.....	.....	L	Own	.....	.....	104	28x3p-28x3p	.....	.....	15
16	C, Sheldon	....	.....	2, R	.....	.....	.....	.....	Sheldon	.....	.....	.....	.....	.....	W	96	34x2-36x2½	.....	.....	16
17	B, Own	N	B	2, R	10¾, 8¾	C, E	P, Smith	½, ½	Detroit	8, 11	38x2¼-54x2½	L	Jacox	46, W	.....	1 32	35x5p-35x5p	2,940	50, 67	17
17a	W Wisconsin	....	.....	2, R	.....	.....	.....	½, ½	Sheldon	.....	.....	.....	Ross	.....	W, Schwarz.	134	34x4½p-35x5p	3,300	.....	17a.
18	I, Own	....	B	2, R	10½, 11½	E, E	P	½, ½	.....	8, 10	41x2½-54x2½	L	Own	.....	W	115	36x3-36x3½	2,900	50, 64	18
19	I, Torbensen, OX2L	Y	S	2, R	12, 13	E, C	P	½, ½	Mather	6, 9	36x2-50x2	L	Lavine	.....	W, E & O.	118	32x4½p-32x4½p	2,200	65, 80	19
20	W, Own	Y	B	2, R	9¾, 10	E, E	P, Smith	½, ½	Mather	8, 10	36x2-50x2¼	L	Jacox	50, 0	W, Prudden	135	34x4½p-34x4½p	2,900	52, 68	20
20a		....	.....	2, R	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	112	30x3½-30x3½	.....	.....	20a.
21	B, Salisbury	....	.....	2, R	.....	C, E	R, Own	½, ½	Spring Perch	.....	.....	L	C.A.S.	.....	W, Salisbury	112	33x4p-33x4p	.....	.....	21
22	I, Torbensen, OX2	Y	W	2, R	10¾, 12	C, E	P, Smith	½, ½	Perfection	7, 10	37x2-50x2½	L	Jacox	46, 0	W	128	35x5p-35x5p	2,580	55, 75	22
23	W, Empire, B	Y	B	2, R	13½, 12	E, E	P, Detroit	½, ½	Cooper	7, 12	38x2½-50x2½	L	C.A.S.	43, 4	W, Bimel.	128	35x5p-35x5p	2,800	42, 58	23
24	W, Timken 6352	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Perfection	8, 9	38x2-50x2½	L	Lavine	.....	W, Schwarz.	125	34x4½p-34x4½p	2,400	75, 75	24
25	B, Own	N	B	2, R	11½, 9½	C, E	P, Own	½, ½	Penn	.....	38x2-40x2½	L	Own	44, 0	W	128	34x4½p-34x4½p	2,615	43½, 62½	25
25a	B, Timken	....	.....	2, R	.....	.....	.....	½, ½	Mather	.....	.....	.....	Gemmer	.....	W, Standard	116	32x4p-32x4p	2,400	.....	25a.
26	I, Clark, AS	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	6, 9	37½x2-48½x2½	L	C.A.S.	42, 0	W, Wayne.	110	32x4p-32x4p	2,190	53, 66⅔	26
27	B, Salisbury	....	.....	2, R	.....	E, E	.....	½, ½	.....	.....	.....	.....	.....	.....	W	115	33x4p-33x4p	.....	.....	27
28	I, Clark, AS	Y	B	2, R	.....	C, C	R, Mason	½, ½	Detroit	7, 10	42x2-54x2½	L	Gemmer	.....	W, Hayes	115	35x5p-35x5p	2,600	60, 80	28
29	W, Empire, B	Y	B	2, R	10½, 11	E, E	P, Parish	½, ½	Sheldon	8, 8	40x2½-50x2½	L	Lavine	.....	W, Hoopes	128	34x4½p-34x4½p	.....	.....	29
30	B, Own	N	B	2, R	9½, 9	C, E	P	½, ½	.....	.....	.....	L	Own	50, 4	W	133½	34x4½p-34x4½p	2,960	54, 70	30
30a	I, Torbensen	Y	B	2, R	.....	C, C	R	½, ½	.....	.....	.....	L	.....	.....	W	135	34x4½p-35x5p	.....	.....	30a.
31	W, Timken, 6352	Y	W	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	8, 12	39x2½-52x2½	L	Ross	.....	W, Bimel	142	36x3½-36x5	3,650	—, 73	31
32	W, Timken, 6352	Y	B	2, R	9, 9½	E, E	P	½, ½	Detroit	7, 11	38x2½-52x2½	L	Ross	54, 0	W, Bimel	130	34x3½-34x5	3,200	50, 70	32
33	I, Torbensen	....	W, Powrlok	2, R	.....	C, E	P, Detroit	½, ½	Detroit	9, 13	38x2-54x2½	L	Lavine	.....	W	130	32x4-32x4	.....	.....	33
34	I, Torbensen	Y	W, Powrlok	2, R	10½, 11½	C, E	R	½, ½	Detroit	8, 11	36x2-52½x2½	L	Lavine	.....	W, Bimel	130	33x4p-32x3½	2,870	—, 66	34
34a	W, Timken	....	.....	2, R	.....	.....	.....	½, ½	Mather	.....	.....	.....	Ross	.....	W, St. M'rys.	148	34x3½-34x5	2,950	.....	34a.
35	I	Y	.....	2, R	.....	.....	.....	½, ½	.....	.....	40x2½-50x2½	L	Ross	.....	W	132	34x4½p-36x6p	.....	.....	35
35a	B	Y	.....	2, R	.....	C, E	P	½, ½	.....	8, 10	36x2-46x2	L	C. A. S.	.....	W	118	32x4p-32x4p	.....	.....	35a
36	I, Clark	N	B	2, R	12, 12	C, E	R, Savage	½, ½	Mather	7, 11	40x2½-52½x2¼	L	Lavine	44, 0	W, E & O.	144	34x4½p-36x5	3,200	50, 75	36
37	I, Torbensen, A	Y	B	2, R	11, 11¼	C, E	P	½, ½	Perfection	8, 10	39x2½-52x2¼	L	Ross	54, 0	W, Schwarz.	124	34x3-34x4	2,910	47, 60	37
37a	I, Columbia	Y	B	2, R	10, 12	C, E	P, Detroit	½, ½	Mather	7, 9	36x2-50x2½	L	Ross.	48, 0	W, Wayne.	125	34x4½p-35x5p	2,715	—, 80	37a.
37b	I, Clark	....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	Lavine	.....	.....	132	32x3½-32x4	3,200	.....	37b
38	I, Russel	Y	B	2, R	9½, 9½	C, E	P, Parish	½, ½	Alloy	7,11	38x2¼-52x2½	L	Lavine	45, 0	W, Hayes	121	33x4-34x3½	2,958	.....	38
38a	W	....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	Warner	.....	.....	125	33x4p-35x5p	.....	.....	38a.
40	W, Timken, 6460	Y	B	2, R	10½, 11	E, E	R, Own	½, ½	Mather	8, 9	40x2¼-54x3	L	Gemmer	.....	W, Standard	132	36x3-36x4	3,800	60, 75	40
41	W, Timken	N	B	2, R	11, 10	E, E	P, Parish & B.	½, ½	Perfection	9, 7	36x2½-50x3	L	Ross	52, 0	W, Bimel	149	34x3½-34x5	3,450	51, 62	41
42	W	....	.....	2, R	.....	E, E	P	½, ½	.....	.....	.....	.....	Ross	.....	.....	140	34x4-34x5	.....	.....	42
43	I, Russel, PI300	Y	B	2, R	.....	C, E	R, Own	½, ½	Perfection	8, 10	38x2¾-48x3	L	Own	.....	W, St. Mary	120	34x3½-34x4	3,300	.....	43
44	I, Torbensen, A	Y	B	2, R	10, 11½	C, E	P, Detroit	½, ½	Detroit	8, 10	36x2½-50x3	L	Jacox	46, 0	W, Bimel	126	34x3½-34x4	2,900	.....	44
45	W, Wis., 800D	Y	W	2, R	10½, 9	E, E	R, Own	½, ½	Iron City	8, 10	36x2½-48x2½	L	Ross	50, 0	W, E & O.	128	34x3½-34x5	3,400	50, 65	45
46	W, Sheldon	Y	W	2, R	.....	E, E	R, Own	½, ½	Mather	8, 10	38x2½-50x2½	L	Ross	.....	W, Bimel	130	34x3½-34x4	.....	70, 70	46
48	W, Sheldon, W1500	Y	B	2, R	10, 9¾	E, E	P, Savage	½, ½	Iron City	8, 12	40x2½-54x2½	L	Gemmer	46, 6	W, Jones	128	34x3½-34x4	3,250	50, 70	48
49	I, Russel, P	Y	B	2, R	14, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	43¼x2¼-48x2½	L	Ross	54, 0	W, Hayes	124	35x5p-36x6p	3,220	51, 73	49
50	I, Torbensen, OX2L	Y	W	2, R	10, 12	C, C	.....	½, ½	Rowland	8, 12	34½x2½-48x2½	L	Jacox	18, 0	W, Schwarz.	115	34x4½p-35x5p	2,400	—, 90	50
51	I, Clark	....	.....	2, R	.....	C, C	P, Savage	½, ½	Sheldon	.....	.....	L	Ross	.....	W, Bimel	120	36x3½-36x4	.....	.....	51
52	W, Timken, 6352	N	B	2, R	13, 12	E, E	P	½, ½	Mather	7, 8	40x2½-52x2½	L	Gemmer	46, 9	S, Detroit	132	35x5p-36x6p	3,600	55, 70	52
53	W, Own	N	W	2, R	10½, 8½	C, E	P, Parish & B.	½, ½	Own	7, 9	31⅝x1¼-16½x3	L	Own	46, 0	W	124	30x3p-32x3½	1,465	.....	53
54	I	....	.....	2, R	.....	C, C	P	.....	.....	.....	.....	.....	.....	.....	W	.....	.....	.....	.....	54
55	W, Timken	....	.....	2, R	.....	E, E	P, Parish	½, ½	Merrill	.....	.....	L	Gemmer	.....	W, Standard	136	35x5p-35x5p	.....	.....	55
56	W, Timken, 6352	Y	W	2, R	12½, 11½	E, E	P	½, ½	Tuthill	8, 11	40x2½-52x2½	L	Ross	42, 0	W, Prudden	130	36x3½-36x4	3,200	50, 20	56
57	W, Sheldon, W1500	Y	B	2, R	13, 9¾	E, E	P, Hydraulic	½, ½	Mather	6, 9	38x2-48x2½	R	Jacox	.....	W, Wayne	130	34x3½-34x5	2,950	50, 68	57
58	B, Own	N	B	2, R	10½, 8¾	E, E	P	½, ½	Detroit	8, 11	38x2¼-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940	50, 67	58
59	I, Torbensen	....	.....	2, R	.....	.....	P, Parish	½, ½	Delaney	.....	.....	.....	Lavine	.....	.....	127	34x3-34x4	.....	.....	59
60	W, Timken	....	.....	2, R	.....	E, E	P, Parish & B.	½, ½	Spring Perch	.....	.....	L	Gemmer	.....	W, Standard	136	35x5p-35x5p	.....	.....	60
61	W, Sheldon	....	.....	2, R	.....	E, E	P, Own	½, ½	Perfection	.....	.....	.....	Lavine	.....	W, Prudden	115	35x5-35x5	.....	.....	61
62	W, Sheldon	....	.....	2, R	.....	E, E	P, Detroit	½, ½	Sheldon	.....	.....	.....	Lavine	.....	W	120	32x4-33x4½	.....	.....	62
63	W, Chicago	....	.....	2, R	.....	E, E	P, Parish & B.	½, ½	Iron City	.....	.....	L	Ross	.....	W, Wayne	128	34x3½-34x4	.....	.....	63
64	I, Own	....	B	2, R	10½, 11½	E, E	P	½, ½	.....	10, 12	40¾x2½-54x2½	L	Own	.....	W	128	36x3½-36x4	3,000	50, 64	64
65	I, Russel, O	N	S	2, R	11½, 11½	C, E	P, Hydraulic	½, ½	Champion	9, 11	37x2¼-51½x2¼	L	C.A.S.	40, 0	W, Prudden	130	34x3½-34x4	3,400	20, 80	65
65a	I, Torbensen	....	.....	2, R	.....	.....	.....	½, ½	Rowland	.....	.....	.....	Own	.....	W, Hoopes	122	31x4p-33x5p	2,040	.....	65a
66	W, Timken, 6460	Y	W	2, R	9, 9	E, E	R	½, ½	Betts	7, 11	44x2½-52x3	R	Ross	.....	W, W't'rh'se	130	34x3½-34x5	4,300	50, 75	66
67	I, Kenosha	....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	Lavine	.....	.....	134	34x4½p-34x4	3,200	.....	67
68	W, Timken, 6460	N	B	2, R	.....	E, E	R	½, ½	Tuthill	9, 12	39x2½-50x2½	L	Ross	.....	W, Standard	130	34x3½-34x4	3,600	.....	68
69	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B.	½, ½	Cleveland	7, 8	36x2-50x3	L	C.A.S.	.....	W, E & O.	130	34x2½-34x4	2,850	50, 75	69
70	I, Clark, AS	Y	B	2, R	14, 14	C, C	R, Own	½, ½	Mather	8, 10	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-35x5p	3,200	50, 65	70
71	I, Clark, 1	Y	W	2, R	9½, 9½	C, C	P, Own	½, ½	Alloy	10, 12	37½x2½-52x2½	L	Jacox	47, 0	W, Auto	130	34x3-34x4	3,400	44, 67½	71

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500—2,000 (Nash) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	500 Pounds:																			
1	Pony	$320	Own	4	2½x4-12.1			T	C, Own		Stromberg		Atwater-K			F, 3				1
	1,000 Pounds:																			
2	Belmont, A	1,150	G B & S-A	4	3½x4½-22.5	S	Pierce	T	C, Modine	N	Zenith	G	B	Y	P, G B & S	S, 3	Grant-Lees, K	N	Sterling	2
4	Croce, 17	825	Wisconsin	4	3½x5-16.9						Zenith		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			4
5	Dodge	1,085	Own	4	3¾x4½-24.2	FS		P	T		Stewart		B, Northeast		M	S, 3				5
6	Duryea, C	675			12.0	S	N				Kingston		M, Bosch							6
7	Seneca, M		Le Roi, C	4	3¼x4½-15.9	FS		T	C, Kunts	N	Schebler	G	BM, Bosch	Y	P, Borg & B	S, 3	Warner, B	N	Universal	7
8	Vim, 29	1,355	Own	4	3¼x4½-15.6	FS	N	T	T, McCord	N	Zenith	G	B	Y	P, Own	S, 3	Own	N	Spicer	8
	1,200 Pounds:																			
9	Champion	1,100	Herschell-Spil	4	3½x5-19.6	S	N	T	C, Jamestown	N	Zenith	G	B	N	P, Borg & B	S, 3	Grant-Lees	N		9
	1,500 Pounds:																			
12	Conetsoga, 12	1,850	Continental, N	4	3½x5-19.6	FS		T	C, Fedders	N	Stromberg	G	M, Simms	Y	M, Fuller	S, 3	Fuller, TU½	N	Spicer	12
13	Dispatch, G	1,200	Wisconsin	4	3½x5-22.5	F		T			Rayfield		M, Bosch			4				13
15	Elmira, C	500	Perkins	4	3½x4-15.6		N	T	C, Bush		Zenith		Atwater-K		C, Own	S, 2	Own		Own	15
16	Geneva, 1		Beaver	2	5½x5½-22.1		N				Schebler		M, Simms		P, Warner	P, 2				16
17	GMC, 16		Continental, N	4	3½x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	17
17a	H. R. L., L	2,400	Hers'l-Spill. 7000	4	3¾x5-19.6	F	N	T	T, Fedders		Zenith	G	M, Bosch		P, Own	S, 3	Covert		Spicer	17a
18	International, H	1,850	Own	4	3½x5½-19.6	FS	Own	P	T, Long.McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	18
19	Kearns, H	1,400	Hers'l-Spil 7000	4	3½x5-19.6	FS	N	T	C, G & O	N	Zenith	G	B	Y	P, Borg & B	S, 3	Grant Lees, K	N	Peters	19
20	Kissel, General Delivery	2,175	Own	4	3½x5½-24.0	S	Pierce	P	T, Sparks-W	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	20
20a	Marshall		Lycoming	4	3½x5-16.9				C			G			Hartford	S, 3				20a
21	Old Hickory, M	995	Lycoming	4	3½x5-16.9		N	T	C, Candler				Connecticut	Y	C, Lycoming	S, 3	Grant-Lees		Thermoid	21
22	Oldsmobile, Ecomony	1,500	Own	4	3 11/16x5½-21.7	F	N	P	C, Own	N	Zenith	G	B	Y	C	S, 3	Warner	N	Spicer	22
23	Patriot, Revere	1,990	Continental	4	3½x5-22.5	S	N	T	C, B & W	N	Stromberg	G	B	Y	P, Borg & B	S, 3	Covert, MA	N	Thermoid	23
24	Rainier, R11	2,150	Continental N	4	3½x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	24
25	Reo, F	* 1,385	Own	4	4½x4½-27.2	FS	N	P	T, Own	N	Johnson	G	B	Y	M, Own	S, 3	Own	N	Own	25
25a	Shaw, M2	1,975	Continental, N3¾	4	3½x5-22.5	FS		T	T		Zenith	G	M, Bosch		M, Brown-L	S, 3	Brown-L		Spicer	25a
26	Stewart, 11	1,350	Le Roi, 2C	4	3¾x4½-15.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	Y	P, Borg & B	S, 3	Durston 02500B	N	Hartford	26
27	Texan	1,495	G B & S	4	4½x—28.9	F					Carter		M, Delco		M, G B & S	S	Grant-Lees			27
28	Triangle, AA	1,600	Herschell-Spil, 4	4	3½x5-16.9	S	N	T	T, Perfex	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU½	N	Detroit	28
29	Watson, 21		Waukesha, BUX	4	3½x5½-22.5	S	Waukesha	P	C, G & O	N	Johnson	G	B	Y	M, Brown-L	S, 3	Brown-L, 35	N	M & E	29
30	White, 15	2,400	Own	4	3½x5½-22.5	FS	N	P	C	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	30
30a	Winther, Deliv'y Spec'l	1,795	Herschell-Spil	4	3½x5-19.6	F		T	T		Stromberg	G	B	Y	M, Warner	S, 3	Warner	N	Peters	30a
	2,000 Pounds:																			
31	Acason, R	2,400	Waukesha, BUX	4	3½x5½-22.5	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N	Blood	31
32	Acme, B	2,175	Continental, N	4	3½x5-22.5	FS	Duplex	T	C, G and O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 3	Cotta, BUC	N	Blood	32
33	All-American	1,795	Herschell-Spil	4	3½x5-19.6	FS	Pharo	T	C, Standard		Stromberg		M, Simms		M, Detlaff	I, 3	Cotta		Universal	33
34	Apex, C	1,745	Buda, RU	4	3¾x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	B, Auto-Lite	N	M, Fuller	S, 3	Fuller, TU½	N	Detroit	34
34a	Armleder, 20		Buda, CTU	4	3½x5½-22.5	F		P	T, Long		Zenith	G	M, Bosch		M, Fuller	S, 3	Fuller		Spicer	34a
35	Atco, IG10	1,875	Buda, WU	4	3¾x5½-22.5	F	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	Y	Hartford	35
35a	Atlas	1,765	Lycoming	4	3¾x5-19.6	S	N	T	C, Jamesto'n	N	Marvel	G	B	Y	P, Borg & B	S, 3	Own	N	Sterling	35a
36	Belmont, B	1,950	G B & S, AA	4	3½x5-22.5	S	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	P, G B & S	S, 3	Grant-Lees, 515	N	Sterling	36
37	Bessemer, G	1,825	Continental, N	4	3½x5-19.6	S	N	T	C, Ideal	N	Zenith	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU½	N	Arvac	37
37a	Bethlehem, K	1,695	Own	4	3¾x5-19.6	F	N	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Spicer	37a
37b	Birch	1,595	Victory	4	3¾x5-19.6	FS		T	T, Chicago		Stromberg	G	Connecticut		M, Fuller	S, 3	Fuller		Uni. Mch.	37b
38	Briscoe, T34	1,550	Own	4	3¾x5-18.2	F	N	T	T, Perfex	Y	Buick	G	Connecticut	Y	C, Own	S, 3	Own		Universal	38
38a	Chevrolet, T	1,325	Own	4	3 11/16x5½-21.7	FS	Monarch	P	Harrison		Zenith	G	Remy		C	S, 3	Warner		Arvac	38a
40	Chicago, C1	2,200	Hercules, CU2	4	3½x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	40
41	Clydesdale, 32C	2,375	Own	4	3½x5½-22.5	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	41
42	Collier, 18		Continental	4	3½x5-19.6		Monarch	P	T, Long		Zenith		M, Eisemann		M	S, 3	Fuller			42
43	Columbia, F	1,850	Continental, N	4	3½x5-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, B	N	Spicer	43
44	Commerce, E	1,855	Continental, N	4	3½x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S	3 Detroit, C	N	Spicer	44
45	Conestoga, 20	2 100	Continental, N	4	3½x5-19.6	FS		T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU½	N	Sterling	45
46	Corbitt, E	2,200	Continental, N	4	3½x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	46
48	Day-Elder, A	2,100	Continental, N	4	3½x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	48
49	Denby, 12	2,400	Continental, N	4	3½x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	Universal	49
50	Diehl, A	1,575	Continental, N	4	3½x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Simms	N	P, Borg & B	S, 3	Durston, 02800		Hartford	50
51	Famous, B10	1,690	Continental	4	3¾x5-19.6		Monarch	T	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	51
52	Federal, SD	2 600	Continental, J-4	4	3½x5-22.5	F	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Own	N	Peters	52
53	Ford, T	545	Own	4	3½x4-22.5	FS	N	T	T, Own	N	Kingston	G	M, Own	N	M, Own	P, 2	Own	N	Own	53
54	Fulton			4	3¾x5-19.6			T						Y	P, Borg & B	3				54
55	Gabriel, C	2,000	Buda	4	4½x5½-28.9		N	P	C, G & O		Rayfield		M, Bosch		P, Borg & B	S, 3	Brown-Lipe		Spicer	55
56	Gary, F	2,100	Buda, WU	4	3½x5-22.5	F	Pierce	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	Blood	56
57	Giant, 15	1,950	Continental, N	4	3½x5-22.5	FS	N	T	C, Ideal	N	Schebler	GK	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	57
58	GMC, 16		Continental, N	4	3½x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	58
59	Hahn, C	1,375	Continental, N	4	3½x5-19.6	FS			T, Chicago		Stromberg		M, Eisemann		M, Detroit	S, 3	Detroit			59
60	Hal-Fur, C	2,000	Buda	4	4x5-25.6		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	60
61	Higrade, A18	2,100	Continental, N	4	3½x5-19.6	FS	Simplex		C, Perfex		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller			61
62	Hoover, 15B	1,435	Continental, N	4	3½x5-19.6	FS		T	C, Candler		Schebler		M, Splitdorf		M, Fuller	S, 3	Fuller			62
63	Independent (Ohio), F	1,685	Continental	4	3½x5-19.6		Monarch	T	T, National		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	63
64	International, F	2,050	Own	4	3½x5½-19.6	FS	Own	P	T, Long.McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	64
65	Jones, 31A	1,395	Continental, N	4	3½x5-19.6	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Arvac	65
65a	Keystone, I	1,500	Own	4	3¼x4-18.2	S	Monarch	T	C, Own		Tillotson	G	Auto Lite		Own	S, 3	Own		Uni. Prod.	65a
66	Kleiber, AA	2,600	Continental, C4	4	3½x5½-22.5	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	66
67	Lone Star, 9		Victory	4	3¼x5-19.6	S		T	T, Chicago		Stromberg	G	Connecticut		M, Fuller	S, 3	Fuller		Thermoid	67
68	Menominee, Hurryton	2,080	Continental, N	4	3½x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1	N	Spicer	68
69	Myers, 60	1,545	Lycoming	4	3½x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	M, Mechanics	S, 3	Mechanics	N	Universal	69
70	Napoleon, 9	1,535	Victory	4	3¼x5-19.6	F	N	T	T, Chicago	Y	Schebler	G	B	N	M, Fuller	S, 3	Fuller, TU½	N	Universal	70
71	Nash, 2018	1,895	Own	4	3½x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 3	Detroit, C	N	Own	71

* Without seat.

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TRUCK SPECIFICATIONS

500—2,000 (Nash)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds). Perc. of weight on rear axle when empty & when loaded.	Line no.
1	C, Own	....	.....	2, R	.....	E,	R, Own	½, ½	Tuthill	.....	.....	L	Own	.....	W, Prudden	90	28x3p-28x3p	.....	1
2	B, Flint	Y	B	2, R	9½, 9½	C, E	P	½, ½	Mather	7, 8	36¾x1¾-50x2¼	L	Lavine	36, 0	W, E & O.	113	31x4p-31x4p	2,200 45, 75	2
4	B, Timken	....	.....	2, R	.....	C, E	P	.....	.....	.....	.....	.....	.....	.....	.....	108	32x4-32x4	.....	4
5	B	....	.....	2, R	.....	.....	.....	.....	Detroit	.....	.....	.....	.....	.....	W	114	33x4p-33x4p	.....	5
6	.....	....	.....	2, R	.....	E,	P	C, T	.....	.....	.....	.....	.....	.....	W	86	36x3½p-36x3½p	.....	6
7	B, Peru. 3050	....	B	2, R	9½, 8½	E, C	P	½, C	.....	6, 9	36x1½-51x2	L	Ditweiler	.....	W	108	30x3½p-30x3½p	.....	7
8	W, Sheldon, W500	Y	W	2, R	11 , 10½	E, E	P	½, ½	Shelden	8, 7	38x2-50x2	L	C.A.S.	30, 10	W, Hoopes	108	31x4p-31x4p	2,175 40, 70	8
9	B	Y	B	2, R	10 , 10	C, E	P	½, ½	.....	7, 8	36x2-50x2	L	.....	.....	W	114	32x4p-32x4p	1,900 50, 65	9
12	I, Torbensen, OX2	Y	B	2, R	9¾, 10½	C, E	P, Savage	½, ½	Iron City	7, 9	36x2-48x2¼	L	C.A.S.	44, 0	W, E & O.	124	32x4½p-32x4½p	2,800 50, 60	12
13	I	....	.....	2, R	.....	.....	.....	½, ½	Tuthill	.....	.....	.....	.....	.....	W	120	34x4p-34x4p	.....	13
15	B, Own	....	.....	2, R	.....	E, E	R, Own	½, ½	Tuthill	.....	.....	L	Own	.....	.....	104	28x3p-28x3p	.....	15
16	C, Sheldon	....	.....	2, R	.....	.....	.....	.....	Sheldon	.....	.....	.....	.....	.....	W	96	34x2-36x2½	.....	16
17	B, Own	N	B	2, R	10¾, 8¾	C, E	P, Smith	½, ½	Detroit	8, 11	38x2¼-54x2½	L	Jacox	46, W	.....	1 32	35x5p-35x5p	2,940 50, 67	17
17a	W Wisconsin	....	.....	2, R	.....	.....	.....	½, ½	Sheldon	.....	.....	.....	Ross	.....	W, Schwarz.	134	34x4½p-35x5p	3,300	17a
18	I, Own	....	B	2, R	10¼, 11¼	E, E	P	½, ½	.....	8, 10	41x2½-54x2½	L	Own	.....	W	115	36x3-36x3½	2,900 50, 64	18
19	I, Torbensen, OX2L	Y	S	2, R	12, 13	E, C	P	½, ½	Mather	6, 9	36x2-50x2	L	Lavine	.....	W, E & O.	118	32x4½p-32x4½p	2,200 65, 80	19
20	W, Own	Y	B	2, R	9¾, 10	E, E	P, Smith	½, ½	Mather	8, 10	36x2-50x2¼	L	Jacox	50, 0	W, Prudden	135	34x4½p-34x4½p	2,900 52, 68	20
20a	.....	....	.....	2, R	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	112	30x3½-30x3½	....	20a
21	B, Salisbury	....	.....	2, R	.....	C, E	R, Own	½, ½	Spring Perch	.....	.....	L	C.A.S.	.....	W, Salisbury	112	33x4p-33x4p	....	21
22	I, Torbensen, OX2	Y	W	2, R	10¾, 12	C, E	P, Smith	½, ½	Perfection	7, 10	37x2-50x2½	L	Jacox	46, 0	W	128	35x5p-35x5p	2,580 55, 75	22
23	W, Empire, B	Y	B	2, R	13½, 12	E, E	P, Detroit	½, ½	Cooper	7, 12	38x2½-50x2½	L	C.A.S.	43, 4	W, Bimel.	128	35x5p-35x5p	2,800 42, 58	23
24	W, Timken 6352	Y	B	2, R	10 , 10½	E, E	P, Parish	½, ½	Perfection	8, 9	38x2-50x2½	L	Lavine	.....	W, Schwarz.	125	34x4½p-34x4½p	2,400 75, 75	24
25	B, Own	N	B	2, R	11¾, 9½	C, E	P, Own	½, ½	Penn	.....	38x2-40x2½	L	Own	44, 0	W	128	34x4½p-34x4½p	2,615 43½, 62½	25
25a	B, Timken	....	.....	2, R	.....	.....	.....	½, ½	Mather	.....	.....	.....	Gemmer	.....	W, Standard	116	32x4p-32x4p	2,400	25a
26	I, Clark, AS	Y	B	2, R	10 , 10	C, C	P, Hydraulic	½, ½	Detroit	6, 9	37½x2-48¾x2¼	L	C.A.S.	42, 0	W, Wayne	110	32x4p-32x4p	2,190 53, 66⅔	26
27	B, Salisbury	....	.....	2, R	.....	E, E	.....	½, ½	.....	.....	.....	.....	.....	.....	W	115	33x4p-33x4p	....	27
28	I, Clark, AS	Y	B	2, R	.....	C, C	R, Mason	½, ½	Detroit	7, 10	42x2-54x2½	L	Gemmer	.....	W, Hayes	115	35x5p-35x5p	2,600 60, 80	28
29	W, Empire, B	Y	B	2, R	10¾, 11	E, E	P, Parish	½, ½	Sheldon	8, 8	40x2½-50x2½	L	Lavine	.....	W, Hoopes	128	34x4½p-34x4½p	....	29
30	B, Own	N	B	2, R	9½, 9	C, E	P	½, ½	.....	.....	.....	L	Own	50, 4	W	133½	34x4½p-34x4½p	2,960 54, 70	30
30a	I, Torbensen	Y	B	2, R	.....	C, C	R	½, ½	.....	.....	.....	L	.....	.....	W	135	34x4½p-35x5p	....	30a
31	W, Timken, 6352	Y	W	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	8, 12	39x2½-52x2½	L	Ross	.....	W, Bimel	142	36x3½-36x5	3,650 —, 73	31
32	W, Timken, 6352	Y	B	2, R	9 , 9½	E, E	P	½, ½	Detroit	7, 11	38x2½-52x2½	L	Ross	54, 0	W, Bimel	130	34x3½-34x5	3,200 50, 70	32
33	I, Torbensen	....	W, Powrlok	2, R	.....	C, E	P, Detroit	½, ½	Detroit	9, 13	38x2-54x2¼	L	Lavine	.....	W	130	32x4-32x4	....	33
34	I, Torbensen	Y	W, Powrlok	2, R	10¾, 11¼	C, E	R	½, ½	Detroit	8, 11	36x2-52½x2½	L	Lavine	.....	W, Bimel	130	33x4p-32x3½	2,870 —, 66	34
34a	W, Timken	....	.....	2, R	.....	.....	.....	½, ½	Mather	.....	.....	.....	Ross	.....	W, St. M'rys.	148	34x3½-34x5	2,950	34a
35	I	Y	.....	2, R	.....	.....	.....	½, ½	.....	.....	40x2½-50x2½	L	Ross	.....	W	132	34x4½p-36x6p	....	35
35a	B	Y	.....	2, R	.....	C, E	P	½, ½	.....	8, 10	36x2-46x2	L	C. A. S.	.....	W	118	32x4p-32x4p	....	35a
36	I, Clark	N	B	2, R	12 , 12	C, E	R, Savage	½, ½	Mather	7, 11	40x2½-52½x2¼	L	Lavine	44, 0	W, E & O.	144	34x4½p-36x5	3,200 50, 75	36
37	I, Torbensen, A	Y	B	2, R	11 , 11¾	C, E	P	½, ½	Perfection	8, 10	39x2½-52x2½	L	Ross	54, 0	W, Schwarz.	124	34x3-34x4	2,910 47, 60	37
37a	I, Columbia	Y	B	2, R	10 , 12	C, E	P, Detroit	½, ½	Mather	7, 9	36x2-50x2¼	L	Ross	48, 0	W, Wayne	125	34x4½p-35x5p	2,715 —, 80	37a
37b	I, Clark	....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	Lavine	.....	.....	132	32x3½-32x4	3,200	37b
38	I, Russel	Y	B	2, R	9½, 9½	C, E	P, Parish	½, ½	Alloy	7,11	38x2½-52x2½	L	Lavine	45, 0	W, Hayes	121	33x4-34x3½	2,958	38
38a	W	....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	Warner	.....	.....	125	33x4p-35x5p	....	38a
40	W, Timken, 6460	Y	B	2, R	10½, 11	E, E	R, Own	½, ½	Mather	8, 9	40x2½-54x3	L	Gemmer	.....	W, Standard	132	36x3-36x4	3,800 60, 75	40
41	W, Timken	N	B	2, R	11, 10	E, E	P, Parish & B	½, ½	Perfection	9, 7	36x2½-50x3	L	Ross	52,0	W, Bimel	149	34x3½-34x5	3,450 51, 62	41
42	W	....	.....	2, R	.....	E, E	P	½, ½	.....	.....	.....	.....	Ross	.....	.....	140	34x4-34x5	....	42
43	I, Russel, PI300	Y	B	2, R	.....	C, E	R, Own	½, ½	Perfection	8, 10	38x2½-48x3	L	Own	.....	W, St. Mary	120	34x3½-34x4	3,300	43
44	I, Torbensen, A	Y	B	2, R	10 , 11½	C, E	P, Detroit	½, ½	Detroit	8, 10	36x2½-50x3	L	Jacox	46, 0	W, Bimel	126	34x3½-34x4	2,900	44
45	W, Wis., 800D	Y	W	2, R	10½, 9	E, E	R, Own	½, ½	Iron City	8, 10	36x2½-48x2½	L	Ross	50, 0	W, E & O.	128	34x3½-34x5	3,400 50, 65	45
46	W, Sheldon	Y	W	2, R	.....	E, E	R, Own	½, ½	Mather	8, 10	38x2½-50x2½	L	Ross	.....	W, Bimel	130	34x3½-34x4	..... 70, 70	46
48	W, Sheldon, W1500	Y	B	2, R	10, 9¾	E, E	P, Savage	½, ½	Iron City	8, 12	40x2½-54x2½	L	Gemmer	46, 6	W, Jones	128	34x3½-34x4	3,250 50, 70	48
49	I, Russel, P	Y	S	2, R	14, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	43¼x2¼-48x2½	L	Ross	54, 0	W, Hayes	124	35x5p-36x6p	3,220 51, 73	49
50	I, Torbensen, OX2L	Y	W	2, R	10, 12	C, C	.....	½, ½	Rowland	8, 12	34½x2½-48x2½	L	Jacox	18, 0	W, Schwarz.	115	34x4½p-35x5p	2,400 —, 90	50
51	I, Clark	....	.....	2, R	.....	C, C	P, Savage	½, ½	Sheldon	.....	.....	L	Ross	.....	W, Bimel	120	36x3½-36x4	....	51
52	W, Timken, 6352	N	B	2, R	13 , 12	E, E	P	½, ½	Mather	7, 8	40x2½-52x2½	L	Gemmer	46, 9	S, Detroit	132	35x5p-36x6p	3,600 55, 70	52
53	W, Own	N	W	2, R	10¾, 8¾	C, E	P, Parish & B	½t, ½t	Own	7, 9	31⅝x1½-16½x3	L	Own	46, 0	W	124	30x3p-32x3½	1,465	53
54	I	....	.....	2, R	.....	C, C	P	.....	.....	.....	.....	.....	.....	.....	W	.....	.....	....	54
55	W, Timken	....	.....	2, R	.....	E, E	P, Parish	½, ½	Merrill	.....	.....	L	Gemmer	.....	W, Standard	136	35x5p-35x5p	....	55
56	W, Timken, 6352	Y	W	2, R	12¼, 11½	E, E	P	½, ½	Tuthill	8, 11	40x2½-52x2½	L	Ross	42, 0	W, Prudden	130	36x3½-36x4	3,200 50, 20	56
57	W, Sheldon, W1500	Y	B	2, R	13 , 9½	E, E	P, Hydraulic	½, ½	Mather	6, 9	38x2-48x2½	L	Jacox	.....	W, Wayne	130	34x3½-34x5	2,950 50, 68	57
58	B, Own	N	B	2, R	10¾, 8¾	E, E	P	½, ½	Detroit	8, 11	38x2¼-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940 50, 67	58
59	I, Torbensen	....	.....	2, R	.....	.....	P, Parish	½, ½	Delaney	.....	.....	.....	Lavine	.....	W	127	34x3-34x4	....	59
60	W, Timken	....	.....	2, R	.....	E, E	P, Parish & B	½, ½	Spring Perch	.....	.....	L	Gemmer	.....	W, Standard	136	35x5p-35x5p	....	60
61	W, Sheldon	....	.....	2, R	.....	E, E	P, Own	½, ½	Perfection	.....	.....	.....	Lavine	.....	W, Prudden	115	35x5-35x5	....	61
62	W, Sheldon	....	.....	2, R	.....	E, E	P, Detroit	½, ½	Sheldon	.....	.....	.....	Lavine	.....	W	120	32x4-33x4½	....	62
63	W, Chicago	....	.....	2, R	.....	E, E	P, Parish & B	½, ½	Iron City	.....	.....	L	Ross	.....	W, Wayne	128	34x3½-34x4	....	63
64	I, Own	....	B	2, R	10¼, 11½	E, E	P	½, ½	.....	10, 12	40½x2½-54x2½	L	Own	.....	W	128	36x3½-36x4	3,000 50, 64	64
65	I, Russel, O	N	S	2, R	11¼, 11½	C, E	P, Hydraulic	½, ½	Champion	9, 11	37x2½-51½x2½	L	C.A.S.	40, 0	W, Prudden	130	34x3½-34x4	3,400 20, 80	65
65a	I, Torbensen	....	.....	2, R	.....	.....	.....	½, ½	Rowland	.....	.....	.....	Own	.....	W, Hoopes	122	31x4p-33x5p	2,040	65a
66	W, Timken, 6460	Y	W	2, R	9 , 9	E, E	R	½, ½	Betts	7, 11	44x2½-52x3	R	Ross	.....	W, W't'rh'se	130	34x3½-34x5	4,300 50, 75	66
67	I, Kenosha	....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	Lavine	.....	.....	134	34x4½p-34x4	3,200	67
68	W, Timken, 6460	N	B	2, R	.....	E, E	R	½, ½	Tuthill	9, 12	39x2½-50x2¼	L	Ross	.....	W, Standard	130	34x3½-34x4	3,600	68
69	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	7, 8	36x2-50x3	L	C.A.S.	.....	W, E & O.	130	34x2½-34x4	2,850 50, 75	69
70	I, Clark, AS	Y	B	2, R	14 , 14	C, C	R, Own	½, ½	Mather	8, 10	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-35x5p	3,200 50, 65	70
71	I, Clark, 1	Y	W	2, R	9¾, 9¾	C, C	P, Own	½, ½	Alloy	10, 12	37½x2½-52x2½	L	Jacox	47, 0	W, Auto	130	34x3-34x4	3,400 44, 67½	71

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2,000 (National)—3,000 (International) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting (included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	2,000 Pds.—Con.																			
72	National, FA	.....	Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	72
73	Noble, A20	.....	Buda	4	3¾x5½-22.5	..	Pierce	P	T, Chicago	Y	Stromberg	G	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	M & E	73
74	Ogden, A1	2,295	Continental, N	4	3¾x5-22.5	S	Pierce	P	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Acme	74
75	Palmer	1,585	Continental, N	4	3¾x5-22.5	FS	Pierce	P	C, Fedders	..	Stromberg	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	..	75
75a	Pioneer, AA	1,550	G. B. & S	4	3¾x4½-22.5	F	..	T	C, Chicago	..	Zenith	G	M, Dixie	..	M, Detroit	S, 3	Grant-Lees	..	Thermoid	75a
76	Rainier, R9	2,350	Continental, N	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	76
77	Republic, 10	1,655	Continental, N	4	3¾x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU½	N	Hartford	77
78	Royal	2,400	Wisconsin	4	3¾x5-16.9	..	Monarch	P	T, Kells	..	Stromberg	..	M, Bosch	..	P, Borg & B	I, 3	Own	..	..	78
79	Sandow, G	2,295	Continental, N	4	3¾x5-19.5	S	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	Spicer	79
80	Service, 220	2,415	Buda, RU	4	3¾x5½-19.6	FS	N	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Arvac	80
80a	Shaw, M4	2,300	Continental, N3¾	4	3¾x5-22.5	FS	..	T	C	..	Zenith	G	M, Bosch	..	M, Brown-L	S, 3	Brown-L	..	Spicer	80a
81	Signal, NF	2,750	Continental, J4	4	3¾x5-22.5	FS	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	81
82	Southern, 10	1,875	Buda, RU	4	3¾x5½-19.6	FS	Pierce	P	T, Standard	N	Zenith	..	M, Bosch	N	P, Borg & B	S, 4	Fuller	N	Spicer	82
83	Standard, 56	.....	Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	83
84	Stewart, 12	1,655	Continental, N	4	3¾x5-19.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Durston, 02800	N	Hartford	84
85	Superior, D	1,800	Continental, N	4	3¾x5-22.5	F	Pierce	T	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	Y	Arvac	85
86	Transport 20	1,850	Buda, WU	4	3¾x5½-22.5	FS	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	3	Fuller, TU½	N	Thermoid	86
87	Traylor, B	2,075	Buda, WU	4	3¾x5½-22.5	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N	..	87
88	Vim, 31	2,475	Hercules	4	3¾x5½-22.5	F	N	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	88
88a	White Hickory, E	2,450	Continental, N	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	M & E	88a
88b	Wichita, K	2,300	Own	4	3¾x5-19.6	S	N	P	C, Perfex	Y	Stromberg	G	M	..	C	I, 4	Cotta	N	Thermoid	88b
89	Wilcox, A	.....	Buda, QU	4	3¾x5½-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	..	89
90	Witt-Will, N	2,150	Continental	4	3¾x5-22.5	..	Pierce	P	C, Bremer	..	Zenith	..	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	..	Spicer	90
	2,500 Pounds:																			
91	Garford, 25	2,090	..	4	3¾x5½-22.5	S	Monarch	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M	S, 3	..	N	..	91
92	Hahn, C	1,950	Continental C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago	..	Stromberg	..	M, Bosch	..	M, Brown-L	S, 3	Brown-L	..	..	92
93	Indiana, 12	2,425	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, G1	N	Acme	93
94	Koehler, C	1,985	Hers'l-Spil. 7000	4	3¾x5-19.6	F	Simplex	T	C, Gordon	Y	Zenith	G	M, Eisemann	N	P, Mechanics	S, 3	Mechanics, LU	N	Kinsler-B	94
95	Old Hickory, W	2,175	Continental, N	4	3¾x5-22.5	FS	Pierce	T	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Blood	95
96	Oneida, A9	2,350	..	4	3¾x5½-22.5	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3	..	N	Peters	96
	3,000 Pounds:																			
97	Acason, RB	2,650	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	97
98	Ace, C	2,750	Buda, WU	4	3¾x5½-22.5	F	Pierce	T	C, Modine	Y	Schebler	G	B, Westingh'e	Y	M, M & E	I, 3	Cotta, AA	N	M & E	98
99	Acme, F	2,475	Continental, J4	4	3¾x5-22.5	F	Duplex	P	T, G & O	N	Zenith	G	M, Eisemann	N	P, Borg & B	I, 3	Cotta, AAU	N	Blood	99
99a	Aetna	2,775	Wisc., CAU	4	3¾x5½-22.5	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, A	N	Spicer	99a
99b	All-American	2,195	Herschell-Spill'n	4	3¾x5-19.6	FS	..	T	..	..	Stromberg	..	M, Simms	..	M	I, 4	Cotta	..	..	99b
100	Apex, D	1,915	Buda, RU	4	3¾x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	Auto-Lite	N	M, Fuller	I, 4	Fuller, TU¾	N	Detroit	100
100a	Atterbury, 20R	2,775	Continental, J4	4	3¾x5-22.5	S	Monarch	P	T, Own	..	Zenith	G	M, Berling	..	M, Brown-L	S, 4	Brown-L	..	Spicer	100a
100b	Available, H1½	2,750	Hercules, CU3	4	4x5½-25.6	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	I, 4	Cotta, A	N	M & E	100b
101	Beck, A	1,950	Continental	4	3¾x5-22.5	S	Pierce	T	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	Y	Blood	101
102	Bell	2,250	Buda, CTU	4	3¾x5½-22.5	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit, DX	Y	Universal	102
103	Bessemer, H2	2,445	Continental, N	4	3¾x5-22.5	S	Pierce	P	T, Standard	N	Zenith	G	M, Bosch	N	P, Borg & B	S, 3	Brown-L, 35	N	Arvac	103
104	Bridgeport, A	2,350	Buda, WU	4	3¾x5½-22.5	..	Pierce	T	T	..	Stromberg	G	M, Eisemann	..	P, Borg & B	I, 3	Cotta	..	Hartford	104
105	Brockway, S2	2,250	Continental, N	4	3¾x5-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	105
105a	Capitol, G1½	2,750	Wisconsin	4	3¾x5-22.5	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	Y	M, Detlaff	I, 4	Cotta, AU	N	Thermoid	105a
106	Chicago, C1½	2,750	Hercules, CU2	4	3¾x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	106
106a	Climber, A2	2,650	Hers'l-Spill. 7000	4	3¾x5-19.6	FS	..	T	..	..	Stromberg	G	Atwater-K	..	M	..	..	..	..	106a
107	Clydesdale, 42C	2,750	Own	4	4x5½-25.6	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	107
108	Collier, 19	.....	Continental	4	3¾x5-22.5	..	Monarch	P	..	..	Zenith	..	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	..	108
109	Comet, 1-T-2	1,950	Lycoming	4	3¾x5-19.6	S	N	T	C, Standard	Y	Carter	G	B, Dyneto	Y	P, Borg & B	S, 3	Muncie, T25	Y	Arvac	109
110	Commerce, EP	2,255	Continental, N	4	3¾x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	110
111	Concord, A	2,350	Buda	4	3¾x5½-22.5	..	Monarch	P	T, Bush	..	Zenith	..	M, Eisemann	..	M, Brown-L	S, 3	Brown-Lipe	..	Spicer	111
112	Corbitt, D	2,600	Continental, N	4	3¾x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	112
113	Dart, S	2,250	Buda, WU	4	3¾x5½-22.5	F	Pierce	T	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	Y	Spicer	113
114	Day-Elder, B	2,450	Continental, N	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	114
115	Dearborn, F	2,180	Continental, N	4	3¾x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	115
116	Defiance, D	2,550	Own	4	3¾x5-22.5	..	N	P	C, Perfex	..	Stromberg	..	..	Y	P, Borg & B	S, 3	Grant-Lees	..	..	116
117	Dependable, C	2,350	Buda, CTU	4	3¾x5½-22.5	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 3	Fuller, LTU	N	Acme	117
118	Diamond T, T	2,805	Dia. T Design	4	3¾x5½-22.5	F	Unit Mot	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 3	Covert	N	Sn'd & Sp	118
118a	Douglas, G	2,200	Weidely	4	3¾x5½-22.5	F	..	P	T, Own	..	Schebler	..	M, Eisemann	..	P, Borg & B	S, 3	Grant-Lees	..	Arvac	118a
119	Duplex, A	2,775	Hinkley, HAA	4	4x5½-25.6	FS	N	P	T, Modine	N	Stromberg	G	B	Y	M, Covert	S, 3	Covert, MUC	Y	Peters	119
120	Erie	..	..	4	4¼x5½-27.2	..	Pierce	T	..	..	Stromberg	..	M, Bosch	..	M	4	..	..	..	120
121	Fageol	3,500	Lycoming, K	4	3¾x5-19.6	S	N	P	C, Modine	N	Zenith	DG	M, Dixie	N	P, Borg & B	S, 5	Own	Y	Detroit	121
121a	Famous, B12	2,295	Continental, N3¾	4	3¾x5-22.5	S	Monarch	T	T, Chicago	..	Stromberg	G	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	Bearings	121a
122	Federal, TE	2,825	Continental, C4	4	4¼x5½-27.2	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit	N	Spicer	122
123	Forschler, AX	2,375	Continental	4	3¾x5-19.6	..	Duplex	P	T, Own	..	Zenith	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	Own	123
123a	Front Drive, C	2,800	Buda, CTU	4	3¾x5½-22.5	S	Pierce	P	T, E. & M	..	Zenith	G	M, Louraine	..	P, Borg & B	S, 3	Own	..	Own	123a
124	Gary, GT	2,550	Buda, TU	4	4x5½-25.6	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Blood	124
124a	Gersix, M	3,100	Buda, TU	4	4x5½-25.6	F	Monarch	P	C, Ideal	N	Stromberg	G	M, Bosch	N	P, Borg & B	I, 3	Cotta, BUA	N	Blood	124a
125	Giant, 15	2,425	Continental, N	4	3¾x5-22.5	FS	N	T	C, Ideal	N	Schebler	G, K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	125
126	GMC, 31A	..	..	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	126
127	Graham Brothers	2,495	Continental, N	4	3¾x5-22.5	FS	Monarch	T	T, Long	N	Stromberg	..	M, Eisemann	..	M, Fuller	S, 3	Fuller	N	Hartford	127
128	Gramm-B'nst'n, 15 (int.)	2,250	Continental, N	4	3¾x5-22.5	FS	N	T	T, Own	N	Stromberg	G	B, Northeast	N	M, Fuller	S, 3	Fuller	N	Own	128
129	Gramm-B'nst'n, 65 (w'm)	2,775	Continental, N	4	3¾x5-22.5	FS	N	T	T, Own	Y	Stromberg	G	B, Northeast	N	M, Fuller	I, 3	Own	N	Own	129
130	Grant, 17	2,675	Continental, N	4	3¾x5-22.5	FS	Pierce	T	C, Fedders	N	..	G	M, Splitdorf	Y	M, Brown-L	S, 4	Brown-L, 35	N	..	130
131	G. W. W	2,100	Weidely	4	3¼x5½-22.5	F	..	P	T, Chicago	..	Schebler	G	Delco	..	M, Fuller	S, 3	Fuller	..	Acme	131
132	Harvey, WEA	2,550	Buda	4	4¼x5½-27.2	..	Monarch	P	T, Chicago	..	Zenith	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	Arvac	132
133	Hawkeye, K	2,365	Buda	4	3¾x5½-22.5	..	Simplex	P	T, Ideal	..	Zenith	..	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	Hartford	133
133a	Higrade, B20	2,500	Continental, J4	4	4¼x5½-27.2	FS	..	P	T, Perfex	..	Zenith	G	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	Blood	133a
133b	Hoover, 20A	..	Continental, N	4	3¾x5-19.6	F	Pierce	P	Candler	..	Schebler	G	M, Dixie	..	M, Fuller	S, 3	Fuller	..	Arvac	133b
133c	H. R. L., R	3,250	Hinkley	4	4x5½-25.6	F	Hinkley	P	C, Fedders	..	Zenith	G	M, Bosch	..	M, Brown-L	S, 4	Brown-L	..	Spicer	133c
134	Huffman, C (int.)	1,695	Continental	4	3¾x5-22.5	F	..	T	C	..	Zenith	..	M, Dixie	..	M, Fuller	S, 3	Fuller	..	..	134
135	Huffman, B (worm)	1,895	Continental	4	3¾x5-22.5	F	..	T	C	..	Zenith	..	B, Northeast	..	M, Fuller	S, 3	Fuller	..	..	135
136	Hurlburt, A	2,850	Buda, IU	4	4x5½-25.6	FS	Duplex	P	T, Own	..	Flechter	..	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	..	..	136
137	Independent (Iowa)	2,040	Continental, N	4	3¾x5-22.5	FS	..	..	T, Chicago	..	Stromberg	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	..	137
139	International, K	2,400	Own	4	3¾x5½-19.6	FS	Own	P	T, Long, McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	139

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TRUCK SPECIFICATIONS

2,000 (National)—3,000 (International)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
72	W, Timken, 6352..	Y	W	2, R	10½, 10½	E, E	P	½, ½	Coghlin	8, 10	40x2½-52x2½	L	Ross	34, 0	W, Hayes	136	34x3½-34x3½	3,350	.....	72
73	W, Sheldon			2, R		E, E	P, Slick-Knox	½, ½	SpringPerch			L	Lavine		W, Bimel	144	36x3½-36x4	3,920	.....	73
74	W, Timken, 6460..	Y	S	2, R	10 , 10	E, E	P, Garden City	C, C	Tuthill	8, 10	38x2½-50x2½	L	Gemmer		W, Standard	136	36x3½-36x4	3,400	—, 70	74
75	I, Torbensen			2, R			P, Parish & B		Champion				Ross		W	132	34x3½x34x4		.....	75
75a	W			2, R				½, ½	Garden City				Ditweiler		W, St. M'rys	130	32x4½p-32x4½p	2,300	.....	75a
76	W, Sheldon, W1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 13	38x2-50x2½	L	Lavine		W, Schwarz	125	32x3½-32x4	2,750	75, 75	76
77	I, Torbensen, A	Y	B	2, R		C, E	P, Detroit	½, ½	Mather	7, 11	39x2½-52½x2½	L	Jacox		W	124	34x3-34x4	2,925	.....	77
78	W, Timken			2, R		E, E	R, Own		Merrill				Ross		W	128	34x4-34x5			78
79	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage	½, ½	Garden City	7, 10	36x2½-52x2½	L	Ross	48, 0	W, Standard	120	34x3½-34x5	3,300	20, 70	79
80	W, Timken, 6456..	Y	B	2, R	9½, 9	E, E	P	½, ½	Mather	8, 9	40x2½-50x2½	L	Ross	42, 0	W, Bimel	137	34x3½-34x5	3,470	—, 70	80
80a	W			2, R				½, ½	Mather				Gemmer			130	35x5p-35x5p	2,575	.....	80a
81	W, Timken, 6352..	N	B	2, R	11 , 11	E, E	P, Savage	½, ½	Detroit	10, 11	38x2½-52x2½	L	Ross	53, 0	W, Hayes	132	34x5p-36x6p	4,395	—, 70	81
82	W, Sheldon	Y	W	2, R	10 , 11		P, Parish & B		Mather		38x2½-51x2½	L	Ross		W, Royer	130	35x3p-35x5		.....	82
83	W, Timken, 6352..	Y	B	2, R	10 , 11½	E, E	P, Parish	½, ½	Perfection		39½x2½-53½x2½	L	Ross		W	134	34x3½-34x4	3,220	58, 71	83
84	I, Clark, 1D	Y	B	2, R	10 , 10	C, C	P	½, ½	Detroit	8, 11	38½x2-50x2½	L	Ross	45, 0	W, Wayne	130	34x3½-34x4	2,820	53, 70	84
85	I, Torbensen, A	Y	B	2, R	11 , 11½	C, E	P	½, ½	Tuthill	8, 11	37½x2-44x2½	L	C.A.S	36, 0	W, Schwarz	124	34x4½p-34x5p	2,950	75, —	85
86	I, Clark, 1D	Y	B	2, R	11½, 12	C, E	P, Detroit	½, ½	Detroit	8, 10	39x2½-52½x2½	L	Jacox		W	130	3x3½-34x4	3,070	30, 70	86
87	W, Sheldon, W1501	Y	W	2, R		E, E	P, Savage	½, ½			36x2½-48x2½	L	Ross		W, Schwarz	132	34x3½-34x5	3,500	.....	87
88	W, Sheldon, W1501	Y	W	2, R	12½, 11	E, E	P	½, ½	Sheldon	9, 12	40x2½-54x2½	L	Gemmer	35, 0	W, Hoopes	125	35x5p-35x5p	3,350	40, 70	88
88a	W Timken, 6352..	Y	W	2, R	11½, 11½	E, E	P, Parish & B	½, ½	Sheldon	8, 10	38x2-52x2½	L	Lavine	44, 0	W, Bimel	124	35x5p-35x5p	3,150	.....	88a
88b	W, Sheldon	Y	W	2, R	10¾, 10¾	E, E	P, Own	½, ½	Detroit		40x2½-50x3	R	Ross		W	144	36x3-36x4	3,650	.....	88b
89	W, Wis., 800D	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 11	36x2½-50x2½	L	Gemmer		I, Smith	130	35x5p-35x5p	3,600	25, 75	89
90	W, Timken			2, R		E, E	P, Parish	½, ½	Delaney			L	Ross		W, Archibald	120	36x3½-36x4		.....	90
91	W	Y	B	2, R		E, E	P	½, ½		8, 8	42x2½-50x2½	L	Ross	50, 0	W	135	36x3½-36x4	3,900	.....	91
92	W, Timken			2, R			P, Parish		Delaney				Lavine			135	36x3½-36x5		.....	92
93	W, Sheldon, W1501	N	B	2, R	10, 8½	E, E	R, Illinois	½, ½	Sheldon	8, 9	38x2-50x2½	L	Wohlrab	44, 0	W, Bimel	134	34x3½-34x5	4,100	55, 65	93
94	I, Torbensen, A	Y	B	2, R		C, E	P, Parish & B	½, ½	Mather	8, 13	38x2½-54x2½	L	Own		W, Wayne	131	34x3-34x5	3,300	.....	94
95	W, Timken, 6453..	Y	W	2, R	10, 10	E, E	R, Own	½, ½	Standard	9, 11	40x2½-50x3	L	Lavine	43, 0	W, Standard	135	36x3½-36x4	3,450	40, 66	95
96	W	Y	B	2, R		E, E	P, Detroit	½, ½	Mather	8, 10	40x2½-54x3	L	Ross		W	135	36x3½-36x5	4,350	60, 85	96
97	W, Timken, 6460..	Y	W	2, R	11 , 11	E, E	P, Savage	½, ½	Detroit	8, 12	39x2½-52x2½	L	Ross		W, Bimel	142	36x3½-36x6	3,800	—, 74	97
98	W, Timken, 6460..	Y	W	2, R	10 , 11	E, E	P, Parish & B	½, ½	Mather	9, 9	39½x2½-53½x3	L	Ross		W, Schwarz	144	36x6p-38x7p	4,750	50, 80	98
99	W, Timken, 6460	Y	B	2, R	9 , 9½	E, E	P, Smith	½, ½	Detroit	8, 12	38x2½-52x2½	L	Ross	54, 0	W, Bimel	141	34x3½-34x5	3,700	50, 70	99
99a	W, Sheldon, W103	N		2, R		E, E	R	½, ½	Sheldon	9, 13	38x2½-52x3	L	Ross		W	144	36x3½-36x5		50, 70	99a
99b	I, Torbensen		W, Powrlok	2, R		E, E	P	½, ½		10, 12	40x2½-54x3				W	144	34x4-34x5			99b
100	I, Torbensen	Y	W, Powrlok	2, R	10½, 11½	C, E	R	½, ½	Detroit	8, 12	36x2-52½x2½	L	Lavine		W, Bimel	130	32x3½-32x4	3,070	—, 66	100
100a	W Timken			2, R				½, ½	Spring Perch				Gemmer		W, Archibald	140	36x3½-36x5	4,770	.....	100a
100b	W, Wisconsin	N	B	2, R	9½, 9½	E, E	R, Own	½, ½	Tuthill	8, 10	40x2½-50x3	L	Ross	42, 0	W, St. Mary's	152	36x3½-36x5	4,000	55, 75	100b
101	I, Clark, 1B	N	B	2, R	14 , 13	C, E	P, Parish & B	½, ½	Higgins	7, 12	40x2½-52x2½	L	Lavine	48, 0	W, Bimel	132	35x5-35x5	2,800	30, 75	101
102	I, Russel	Y	B	2, R	12 , 13	C, E	R, Own	½, ½	Detroit	7, 12	40x2-54x2½	L	Gemmer	52, 0	W, Bimel	132	32x3½x32x4	3,500	50, 70	102
103	I, Torbensen, C	N	B	2, R	11 , 12	C, E	P	½, ½	Perfection	8, 11	39x2½-56x3	L	Ross	54, 0	W, Schwarz	144	36x3½-36x5	3,600	53, 65	103
104	W Wisconsin			2, R				½, ½					Ross				34x3½-36x6			104
105	W, Sheldon, W1501	N	B	2, R		E, E	P, Parish	½, ½	Sheldon	8, 10	39x2½-48x3	L	Gemmer		W, Hoopes	140	36x3½-36x5	3,550	52, 74	105
105a	W, Wisc., 800F	Y	B	2, R	12½, 11	E, E	R	½, ½	Spring Perch		41½x2½-54x2½	L	Ross	51, 0	W, Ames	144	35x5p-38x7p	4,600	55, 85	105a
106	W, Timken, 6460..	Y	B	2, R	10½, 11	E, E	R	½, ½	Mather	8, 11	40x2½-54x3	L	Gemmer		W, Standard	144	36x3½-36x5	3,900	60, 75	106
106a	I, Torbensen			2, R				½, ½								146	36x6p-38x7p	4,150		106a
107	W, Timken, 6460..	N	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Perfection	9, 9	36x2½-50x3	L	Ross	56, 0	W, Bimel	151	36x3½-36x6	3,850	51, 78	107
108	W			2, R		E, E		½, ½					Ross			144	36x4-36x6			108
109	B, Standard, C	Y	B	2, R	10 , 12	C, E	P	½, ½	Marathon	7, 12	36½x2-50½x3	L	Gemmer	56, 0	W, Moline	130	33x4p-33x4	3,240	60, 70	109
110	I, Torbensen, A	Y	B	2, R	11, 12½	C, E	P, Detroit	½, ½	Detroit	8, 11	36x2½-50x3	L	Jacox	50, 0	W, Bimel	134	36x6p-36x6p	3,200	—, 90	110
111	W, Timken			2, R		E, E	P, Parish & B	½, ½	Spring Perch			L	Ross		W, Crane	140	36x3½-36x5			111
112	W, Sheldon	Y	W	2, R		E, E	R, Own	½, ½	Mather	9, 11	38x2½-50x2½	L	Ross		W, Bimel	136	36x3½-36x5			112
113	W, Own	Y	B	2, R	10½, 10½	F, F	P, Savage	½, ½	Perfection	7, 11	37x2-54x2½	L	Ross	44, 0	W, Prudden	140	34x3½-34x6	3,300	50, 80	113
114	W, Sheldon, W1501	Y	B	2, R	10, 10	E, E	P, Savage	½, ½	Iron City	9, 13	40x2½-54x2½	L	Gemmer	51, 9	W, Jones	144	34x3½-34x5	3,500	50, 70	114
115	W, Wisconsin	Y	B	2, R	10, 12	E, E	P, Own	½, ½	Maremont	7, 9	35x2½-52x2½	L	Lavine	42, 0	W, Crane	126	34x4-34x5	3,280	50, 75	115
116	I, Torbensen			2, R		E, E	P, Detroit	½, ½	Detroit			L			W, Crane	140	35x5-36x6			116
117	W, Wisc., 800H	Y	W	2, R	10, 10	E, E	P	½, ½	Perfection	9, 11	40x2½-48x2½	L	Ross	54, 0	W, Bimel	128	34x5-34x5	4,120	40, 70	117
118	W, Wisc., 800H	Y	W	2, R		E, E	P, Smith	½, ½	Mather	8, 10	40x2½-53x2½	L	Gemmer		W	144	36x3½-36x5	4,000	50, 90	118
118a	I, Torbensen							½, ½	Own				Ross			127	34x3½-34x5	3,725	.....	118a
119	W, Sheldon	Y	B	2, R	11, 11½	E, E	P, Parish & B	½, ½	Penn	9, 9	39x2½-50x2½	L	Ross		W, Prudden	145	35x5p-38x7p		.....	119
120	W, Timken			2, R			P						Ross			144	34x3½-36x5		.....	120
121	W, Standard, 603	Y	B	2, R	10½, 10	E, E	R, Own	½, ½	Mather	8, 11	41x2½-56x3	L	Ross		W, Prudden	136	34x3½-34x6	3,500	50, 70	121
121a	I, Clark			2, R				½, ½	Detroit				Ross		W, Bimel	138	36x3½-36x5	3,600	.....	121a
122	W, Timken, 6560..	N	B	2, R	12½, 9	E, E	P	½, ½	Mather	9, 9	40x2½-54x3	L	Gemmer	46, 3	W, Auto	144	36x3½-36x5	4,250	56, 69	122
123	W, Sheldon			2, R		E, E	R, Own	½, ½	Own				Ross		I, Smith	120	36x3½-36x5			123
123a	W, Own			2, R				½, ½	Own				Lavine		W, Standard		34x5-34x5	3,200		123a
124	W, Timken, 6460..	Y	W	2, R	12, 10½	E, E	P, Own	½, ½	Tuthill	9, 12	44x2½-52x3	L	Ross	42, 0	W, Prudden	142	36x3½-36x5	3,800	50, 20	124
124a	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	R, Own	½, ½	Tuthill	10, 11	42x2½-54x3	L	Ross	48, 0	W, Western	142	36x3½-36x6	4,700	45, 80	124a
125	W, Sheldon, W-1500	Y	B	2, R	13, 9½	E, E	P, Hydraulic	½, ½	Mather	6, 11	38x2-48x2½	R	Jacox		W, Wayne	138	34x3½-34x5	3,600	55, 75	125
126	W, Timken, 6460..	N	B	2, R	10¾, 9½	E, E	P, Smith	½, ½	Detroit	8, 10	36x2½-54x3	L	Jacox	51, 0	W	130	36x3¼-36x5	4,205	55, 74	126
127	I, Torbensen	Y	B	2, R	11, 12½	C, C	P, Detroit	½, ½	Detroit	9, 12	42x2½-52x3	L	Lavine	48, 0	S, Disteel	133	35x5p-36x6p	2,950	. . ,80	127
128	I, Clark	Y	B	2, R	11, 11	C, E	P, Own	½, ½	Perfection	10, 11	40x2½-52x2½	L	Ross	51, 0	W, Bimel	138	36x3½-36x5	3,800	69, 90½	128
129	W, Standard	Y	B	2, R	11,	E, E	P, Own	½, ½	Perfection	10, 11	40x2½-52x2½	L	Ross	51, 0	W, Bimel	138	36x3½-36x5	4,200	69, 90½	129
130	I, Torbensen, A	Y	B	2, R	10, 10½	C, E	P	½, ½	Perfection	11, 12	42x2½-50x2½	L	Jacox	45, 0	W, Royer	140	35x5p-38x7p	3,450	47½, 67	130
131	I, Clark			2, R				½, ½	Garden City				Wohlrab		W, Royer	142	35x5-35x5	3,200	.....	131
132	W, Sheldon					E, E	P, Own	½, ½	Sheldon			L	Ross		W, Schwarz	128	34x3½-34x5		.....	132
133	I, Clark			2, R		C, E	R, Own	½, ½	Detroit			L	Ross		W, Bimel	148½	34x3½-34x5		.....	133
133a	W, Sheldon			2, R				½, ½	Perfection				Lavine		S, Detroit	130	36x6-36x6	3,100	.....	133a
133b	W, Sheldon			2, R				½, ½	Sheldon				Lavine		W, E & O	132	36x4-34x5	3,150	.....	133b
133c	W, Sheldon			2, R				½, ½	Sheldon				Ross		N, Schwarz	144	36x4-36x7	4,560	.....	133c
134	I, Torbensen			2, R		E, C	P	½, ½	Perfection				Lavine		W	140	34x3½-34x5		.....	134
135	W			2, R		E, E	P	½, ½	Perfection				Lavine		W	140	34x3½-34x5		.....	135
136	W, Hindley			2, R		E, C	P, Savage	½, ½	Perfection				Ross		W, Wayne	148	34x4-34x5		.....	136
137	I, Torbensen			2, R		C, E	P	½, ½					Lavine		W	135	34x3½-34x5		.....	137
139	I, Own		B	2, R	10½, 11½	E, E	P	½, ½		10, 14	41½x2½-56x3	L	Own		W	128	36x3½-36x5	3,400	50, 67	139

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3,000 (Jumbo)—4,000 (Day-Elder) **INTERNAL-COMBUSTION**

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	3,000 Pounds—Con.																			
140	Jumbo, 15	2,850	Buda, CTU	4	3¾x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast.	Y	M, Fuller	S, 3	Fuller, LTU-S	Y	Arvac	140
141	Kalamazoo, G		Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	141
142	Kearns, N	2,000	Hers'l-Spill. 7000	4	3¾x5-19.6	FS	Pierce	T	B, Bush	N	Zenith	G	M, Berling	N	P, Borg & B	S, 3	Grant-Lees, 515	Y	Peters	142
143	Kelly-Sp'gf'd,K31.(ch'n)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Own	143
144	Kelly-Sp'gf'd,K32.(w'm)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Spicer	144
145	Kissel, General Utility	2,775	Own	4	3¾x5½-24.0	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	145
146	Kleiber, A	3,100	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	146
147	K-Z	2,450	Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Thermoid	147
148	Larrabee, N		Continental, N	4	3¾x5-22.5	S	Simplex	T	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Universal	148
149	Maccar, L	2,925	Continental, C4	4	4¼x5½-27.2	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	149
150	Mack, AB(chain)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	150
151	Mack, AB(worm)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	151
152	Mapleleaf, AA		Hinkley, HAA400	4	4x5½-25.6	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LTU5	N	Blood	152
154	Master, JW	2,690	Buda, OU	4	4¼x5½-27.2	S	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Spicer	154
155	Maxwell	1,472	Own	4	3¾x4½-21.3	S		P	T, Own	N	Eagle	G	B	N	C, Own	S, 3	Own	N	Thermoid	155
156	Menominee, H	2,725	Continental, C4	4	3¾x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU2	N	Spicer	156
157	Moreland, 19B	3,125	Continental	4	4¼x5½-27.2	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	157
158	Myers, 80	1,875	Lycoming	4	3¾x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees	N	Universal	158
159	Napoleon, 11	1,860	Victory	4	3¾x5-19.6	F	N	T	T, Chicago	Y	Schebler	G	B	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	159
160	National, GA		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	160
161	Nelson & LeMoon, F1½		Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-L, 35		Thermoid	161
162	Noble, B30		Buda	4		FS	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU			162
163	Norwalk	1,750	Lycoming, K	4	3¾x5-19.6	FS	N		T, Chicago		Carter		B		P, Borg & B	S, 3	Grant-Lees, 515			163
164	O. K., K	2,675	Buda, ITU	4	4¼x5-32.4	FS	Pierce	T	T, R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, TU3		Hartford	164
165	Old Hickory, N	995	Lycoming, K	4	3¾x5-19.6			T	C, Standard		Carter		M, Connectic		C, Lycoming	S, 3	Grant-Lees			165
166	Old Reliable, A	2,350	Wisconsin, EU	4	4x5-25.6	F	N	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	166
166a	Orleans	2,700		4	4x5½-25.6	F		P	T	N	Master	G	M, Eisemann	N	M	I, 3	Cotta			166a
167	Packard, B	3,200	Own	4	4x5½-25.6	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Spicer-Th.	167
168	Paige, 52-19	2,980	Hinkl'y,HAA400	4	4x5½-25.6	F	Hinkley	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	168
169	Patriot, Lincoln	2,785	Hinkley,HAA400	4	4x5½-25.6	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Fuller, G5	N	Thermoid	169
170	Rainier, R6	2,450	Continental, N	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	170
170a	Ranger, C	2,575	Wisconsin, CAU	4	3¾x5-22.5	FS	Duplex	P	T	N	Zenith	G	M, Dixie	N	M	S, 3	Fuller	N	Universal	170a
171	Reliance, A10	2,500	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU3	N	Peters	171
172	Republic, 11X	2,195	Continental, N	4	3¾x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 3	Fuller, TU¾	N	Hartford	172
173	Reynolds, 3A	3,250	Hinkley	4	4x5½-26.5	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert	N	Thermoid	173
173a	Rowe, CW	2,800	Wisconsin	4	3¾x5-22.5	F	Simplex	P	C, Fedders		Zenith		M, Bosch		M	S, 4	Brown-L		Spicer	173a
174	Royal	2,800	Wisconsin	4	3¾x5-22.5		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			174
175	Sandow, CG	2,590	Continental, N	4	3¾x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	175
176	Schwartz, B2	2,175	Continental, J4	4	3¾x5-22.5	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	176
177	Selden, 1¼A	2,460	Continental, N	4	3¾x5-22.5	S	Pierce	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S,	Brown-L, 30	N	Spicer	177
178	Service, 31 (solids)	2,985	Buda, IU	4	4x5½-25.6	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	178
179	Service, 36 (pneumatics)	3,415	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	179
180	Signal, H	2,925	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	180
181	Southern, 15		Continental, N	4	3¾x5-22.5	FS	Pierce	T	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	181
182	Sterling		Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	182
183	Stewart, 9	2,250	Continental, N	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	183
184	Stoughton, B	2,350	Waukesha, BUX	4	3¾x5-22.5	FS	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe, 30		Thermoid	184
185	Sullivan, F	2,350	Buda, M	4	3¾x4½-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Bosch	N	C, Hartford	S, 3	Covert, GI	N	Hartford	185
186	Texan, TK	1,525	Lycoming	4	3¾x5-19.6	FS	N	T	C, Own		Carter		B		P, Borg & B	S, 3	Muncie			186
187	Tiffin, GW	2,415	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 3	Fuller, GU3	Y	Peters	187
188	Tower, J	3,000	Continental, C4	4	4¼x5½-27.2	FS	N	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N		188
189	Transport, 30	2,250	Continental, N3¾	4	3¾x5-22.5	F	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Hartford	189
190	Traylor, C	2,875	Buda, ITU	4	4x5½-25.6	S	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N		190
191	Triangle, A	2,450	Waukesha, BU4	4	3¾x5½-22.5	FS	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	191
192	Ultimate, A	3,200	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	192
193	United	2,445	Buda	4	3¾x5½-22.5						Stromberg				M	S, 3	Brown-Lipe			193
194	Universal, G		Buda	4	3¾x5-22.5		Monarch	P	T, Bremer		Zenith		M, Eisemann		P, Own	S, 3	Own			194
195	U. S., N		Continental, N	4	3¾x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	195
195a	U. S., NW		Continental, N	4	3¾x5-22.5	FS	N	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	195a
196	Velie, 46	2,200	Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Stromberg	G	M, Berling	N	P, Borg & B	S, 3	Durston 034000	N	Arvac	196
197	Victor (Mich.), A		Continental, N	4	3¾x5-22.5	F	N	T	Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	197
198	Watson, 20		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	T, R'me-T'r'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	198
199	White Hickory, H	2,750	Continental, N	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	199
200	Wichita, L	2,600	Waukesha, BX	4	3¾x5-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	200
201	Wilcox, B		Own	4	4¼x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		201
202	Wilson	2,450	Continental, N	4	3¾x5-22.5	FS	Pierce	T	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35		Thermoid	202
203	Winther, 39 (rear drive)	2,450	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Peters	203
204	Winther, 430 (4-wh'l-dr)	2,850	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Peters	204
205	Wisconsin, B	1,750	Waukesha	4	3¾x5½-19.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			205
206	Witt-Will, N Special	2,150	Continental	4	3¾x5-22.5		Pierce	P	C, Bremer		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	206
207	Wolverine, C		Continental	4	3¾x5-22.5		Monarch	T	T, Long		Stromberg		M, Eisemann	Y	M, Fuller	S, 3	Fuller		Universal	207
	3,500 Pounds:																			
208	Air-O-Flex, C		Buda, CTU	4	3¾x5½-22.5	P	Duplex	F	T, Spirex	N	Stromberg	G	M, Splitdorf	Y	P, Borg & B	S, 4	Brown-L, 35	N	Thermoid	208
209	Oneida, B9	2,915		4	4x5-25.6	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3		N	Peters	209
	4,000 Pounds:																			
210	Acme, A	3,050	Continental, C4	4	4¼x5½-27.2	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, RU	N	Blood	210
211	Atco, W20	2,875	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Hartford	211
212	Autocar, 21UF	2,300	Own	2	4¼x4½-18.0	S	N	P	T, Own	N	Stromberg	G	M, Bosch	N	P, Own	S, 3	Own	N	Spicer	212
214	Beck, C	2,350	Continental	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU3	Y	Blood	214
215	Belmont, C	2,550	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Sterling	215
215a	Bethlehem, G	2,395	Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Universal	215a
216	Brinton, F	3,000	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Mayo	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50		Spicer	216
217	Collier, 20		Continental	4	4¼x5½-27.2		Monarch	P			Zenith		M, Eisemann		M, Fuller	S, 4	Fuller			217
218	Conestoga, 30	2,700	Continental, N	4	3¾x5-22.5	FS	Duplex	T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU3	N	Sterling	218
218a	Cook, 41	3,000	Hercules, CU3	4	4x5½-25.6			P	T, Own			G	M, Berling		P, Borg & B	S, 4			Blood	218a
219	Day-Elder, D	2,950	Continental, C2	4	4¼x5½-27.2	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, RUN3C	N	Hartford	219

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TRUCK SPECIFICATIONS

3,000 (Jumbo)—4,000 (Day-Elder)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
140	I, Clark, 1D	Y	B	2, R	11, 13½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	36x3½-36x5	3,600	50, 75	140
141	W, Wisc., 800F	N	W	2, R	9, 9½	E, E	R	½, ½	Sheldon	6, 11	40x2½-50x2½	L	Ross	51, 8	W, Bimel	144	36x4-36x5	5,080	—, 80	141
142	I, Torbensen, B	Y	S	2, R	14, 11	E, E	P	½, ½	Mather	6, 9	42x2½-52x3	L	Lavine		W, E & O	136	34x3½-34x6	3,620	68, 80	142
143	C, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10,11	40½x2½-43½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,590	50, 90	143
144	W, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10 12	40½x2½-47½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,685	50, 90	144
145	W, Sheldon, W-1500	Y	W	2, R	12⅝, 11	E, E	P, Smith	½, ½	Mather	10,11	38x2½-50x2½	L	Jacox	50, 0	W, Prudden	152	36x3½-36x5	4,000	51½, 69	145
146	W, Sheldon, W-103	Y	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W, Waterh'se	143	36x3½-36x6	4,900	50, 75	146
147	W, Timken, 6460	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	7, 9	40x2½-50x3	L	Lavine	30, 2	W, St. M'ry	134	36x3½-36x5	4,000		147
148	W, Sheldon, W-1500	Y	B	2, R	10½, 9½	E, E	P, Savage	½, ½	Merrill	7, 9	38x2½-53x2½	L	Ross		W, Hoopes	130	34x3½-34x5	3,600	36, 88	148
149	W, Timken, 6460	N	B	2, R	10½, 10½	E, E	P, Parish	½, ½	Merrill	7, 12	42x2½-54x2½	L	Ross		S. Dayton	150	36x4-36x6	4,300	—, 70	149
150	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwarz	Opt.	36x4-36x3½d	4,800	46, 67	150
151	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwarz	Opt.	36x4-36x3½d	4,900	47, 69	151
152	W, Sheldon, W-103	Y	B	2, R	9, 9½	E, E	R, Own	½, ½	Sheldon		42x2½-50x3	L	Ross		W, Hayes	144	34x4-36x6	4,600	50, 70	152
154	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Detroit	8, 10	44x2-52x2½	L	Ross	42, 0	W, Prudden	142	34x3½-34x5	3,900	55, 78	154
155	W, Own	Y	W	2, R	13, 11	E, E	P	½, ½	Detroit	7, 12	38x2½-52x2½	L	Own	52, 2	W, Kelsey	124	32x3-32x4	2,550	50, 70	155
156	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	144	36x3½-36x5	4,000		156
157	W, Timken, 6456	N	W	2, R	10½, 8½	E, E	P	½, ½	U. S	6, 10	38x2½-48x3	L	Ross	50, 0	I. Smith	126	36x3½-36x5	4,150	50, 65	157
158	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	8, 9	36x2-50x3	L	C.A.S		W, E & O	144	34x3½-34x5	3,200	50, 75	158
159	I, Clark, 1D	N	B	2, R	14, 13	C, C	R, Own	½, ½	Spring Perch	9, 12	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-38x5p	3,400	50, 65	159
160	W, Timken, 6460	Y	W	2, R	10½, 9½	E, E	P	½, ½	Coghlin	7, 10	40x2½-52x3	L	Ross	48, 0	W, Hayes	140	34x4-34x5			160
161	W, Timken, 6552	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x3½-36x6			161
162	W, Sheldon, W-103			2, R		E, E	P, Slick-Knox	½, ½	Tuthill				Lavine		W, Bimel	144	36x3½-36x5	4,680		162
163	W, Chicago, C			2, R		E, E	P, Own	½, ½	Standard				Lavine		W, E & O	130	34x3½-34x5			163
164	W, Wisconsin			2, R		E, E	P, Savage	½, ½	Tuthill				Ross		W, Bimel	146	36x3½-36x5			164
165	B, Salisbury			2, R		C, E	R, Detroit	½, ½	Tuthill				Lavine		W, Bimel	112	33x4-33x4			165
166	W, Sheldon, W21	Y	W	2, R	11, 9½	E, E	P	½, ½	Sheldon	9, 13	39x2½-54x3	R	Ross		W, Prudden	138	34x4-36x6	4,150	—, 90	166
166a	W	N		2, R		E, E	R	½, ½			40x2½-52x3		Ross		I, Smith	142	36x3½-36x5			166a
167	W, Own	N	S	2, R	9⅝, 9½	C, E	R, Own	½, ½		10, 11	41x2½-46x2½	L	Own	50, 0	W	144	34x3½-34x3½d	4,670	46, 67	167
168	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	9, 10	42x2½-52x3	L	Ross		W	140	34x3½-34x5	4,000	60, 75	168
169	W, Empire, N	Y	B	2, R	11, 11½	E, E	P, Detroit	½, ½	Cooper	8, 13	40x2½-52x2½	L	Ross	46, 6	W, Bimel	140	34x3½-34x5	3,900	45, 75	169
170	W, Sheldon, W-1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 14	38x2-50x2½	L	Lavine		W, Schwarz	133	34x3-34x4	3,000	75, 75	170
170a	W	N	B	2, R	10, 9	E, E	P, Detroit	½, ½	Perfection	8, 11	40x2½-50x2½	L	Ditweiler	50, 0	W, St. M'rys	136	34x3½-34x5	3,600	40, 70	170a
171	E, Own	Y	W, Powrlok	2, R	10, 11½	E, E	P, Savage	½, ½	Sheldon	8, 11	36x2½-56x2½	L	Ross		W, Bimel	150	36x3½-36x5	4,500	35, 85	171
172	I, Torbensen, C2	Y	W, Powrlok	2, R		E, E	P, Detroit	½, ½	Mather	8, 15	39x2½-52½x2½	L	Jacox		W	144	34x4-34x6	3,300		172
173	W, Sheldon	Y	B	2, R	13½, 10½	E, E	R, Standard	½, ½	Perfection		40x2½-54x2½	L	Lavine		I. Smith	140	36x3½-36x6			173
173a	W, Sheldon			2, R		E, E		½, ½	Sheldon				Ross		W, Hoopes	133	36x6p-36x6p	3,850	—, 62	173a
174	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	128½	34x4-34x5			174
175	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage	½, ½	Garden City	7, 12	36x2½-52x2½	L	Ross	54, 0	W, Standard	135	34x3½-34x5	3,900	20, 70	175
176	I, Torbensen, B	Y	B	2, R	10, 11½	C, E	P, Parish	½, ½	Rowland	7, 13	38½x2½-54x3	L	Ross		W, Schwarz	140	34x3½-34x5	3,600		176
177	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Perfection	10, 10	40x2½-50x2½	R	Lavine	48, 0	W	137½	34x3½-34x5	3,560	56, 75	177
178	W, Timken, 6460	Y	B	2, R	11½, 9½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	36x3½-36x6	4,850	—, 65	178
179	W, Timken, 6460	Y	B	2, R	11½, 10½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	35x5p-38x7p	4,900	—, 65	179
180	W, Timken, 6460	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	10, 11	44x2½-56x3	L	Ross	53, 0	W, Hayes	144	34x4-36x6	4,760	—, 73	180
181	W, Sheldon	Y	W	2, R			P, Parish & B	½, ½	Mather		38x2½-54x2½	L	Ross		W, Royer	143	34x3½-34x5d			181
182	W, Timken, 6460	N	B	2, R	10½, 10½	E, E	P	½, ½	Mather	8, 10	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x3½-36x5	4,720	47, 91	182
183	I, Clark, 1D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	8, 11	41x2½-54x3	L	Ross	49, 0	W, Wayne	140	34x3½-34x5	3,440	56, 70	183
184	W, Sheldon, W-1501	N	W	2, R	11½, 11	E, E	P, Smith	½, ½	Sheldon	9, 11	40x2½-50x2½	L	Lavine	51, 0	W, Bimel	140½	36x3½-36x5	3,800	49, 69	184
185	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	R, Own	½, ½	Merrill	9, 9	38x2-52x3	L	Ross	45, 0	W, Wayne	129	36x3-36x5	3,500	54, 68	185
186	W, Chicago			2, R		E, E	P, Parish & B	½, ½	Maremont				C.A.S		W	144	34x4p-34x5			186
187	W, Sheldon, W102	N	R	2, R	10, 12	E, E	P	½, ½	Kalamazoo	9, 11	40x2-48x2½	L	Ross	47,0	I. Smith	135	36x3½-36x5	3,650	40, 60	187
188	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		42x2½-52x2½	L	Ross		W, Royer	142	35x5p-38x7p	4,520	—, 75	188
189	I, Clark, 1D	Y	B	2, R	11½, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	40x2½-54x3	L	Jacox		W	140	36x3½-36x5	3,450	30, 70	189
190	W, Sheldon, W103	Y	W	2, R		E, E	P, Savage	½, ½			38x2½-50x2½	L	Ross		W, Schwarz	138	36x4-36x6	4,700		190
191	I, Clark, 1D	Y	W, Powrlok	2, R	9½, 10	C, C	R, Mason	½, ½	Detroit	9, 11	42½x2½-54x2½	L	Gemmer	47, 6	W, Royer	144	34x3½-34x6	3,750	60, 80	191
192	W, Sheldon, W103	Y	S	2, R	9½, 10½	E, E	P	½, ½	Sheldon	9, 13	39x2½-52x2½	L	Ross	47, 0	W	140	36x3-36x5	4,500	50, 70	192
193	I, Clark			2, R			P	½, ½				L			W	145	34x3½-34x5			193
194	W, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	133	34x3½-34x5			194
195	I, Clark, 1D	Y	B	2, R	11, 12½	C, E	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwarz	144	36x3½-36x5	3,800	47, 85	195
195a	W, Sheldon, W1501	Y	B	2, R	11, 12½	C, E	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwarz	144	36x3½-36x5	3,800	47, 85	195a
196	I, Torbensen, CT	Y	W, Powrlok	2, R	10½, 12	C, E	P, Dunbar	½, ½	Mather	8, 11	40x2½-54x3		Ross	46, 0	W, Bimel	133	36x3½-36x5	3,650	52½, 85	196
197	I, Clark	Y	B, W	2, R	12, 12	C, E	P	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden	140	-x4—x5	3,250	80, 80	197
198	W, Empire, N	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Sheldon		40x2½-52x3	L	Lavine		W, Crane	144	36x3½-36x5			198
199	W, Timken, 6460	Y	W	2, R	10, 10	E, E	P, Parish & B	½, ½	Sheldon	8, 10	41½x2½-50x3	L	Ross	51, 0	W, Bimel	144	36x3½-36x5	3,750	54, 76	199
200	W, Sheldon	Y	W	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit		40x2½-50x3	R	Ross		W	144	36x3½-36x5	4,100		200
201	W, Wisc., 800E	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 10	40x2½-52x3	L	Own		I. Smith	144	36x4-36x5	4,600	25, 75	201
202	W, Timken, 6460	Y	B	2, R	10½, 10½	E, E	R	½, ½	Perfection	8, 12	38x2½-52x2½	L	Ross		W	140	36x3½-36x5	3,800		202
203	I, Clark, 1D	Y	B	2, R	10, 11½	C, C	R, Own	½, ½	Harvey	9, 12	40x2½-48x2½	R	Lavine	56, 0	I, Own	140	34x3½-34x5	3,600	40, 75	203
204	I, Clark, 1D	Y	B	4, FR	11½, 10½	C, C	R	½, ½	Harvey	9, 12	40x2½-48x2½	L	Lavine	58, 0	I, Own	132	32x4-32x4	4,100	30, 60	204
205	W, Sheldon			2, R		E, E	P, Smith	½, ½					Lavine		W	136	34x3½-34x4			205
206	W, Timken			2, R		E, E	P, Parish	½, ½	Delaney			L	Ross		W, Arch'ld	120	36x3½-36x5			206
207	I, Russel			2, R		C, E	P, Parish & B	½, ½	Tuthill			L	Gemmer		W	140	34x3½-34x5			207
208	I, Russel, P1-300	N	B	2, R	15, 14	E, C	P	½, ½				L	Ross		W	150	36x3½-36x5	4,000	40, 70	208
209	W	Y	B	2, R	10½, 10	E, E	P, Detroit	½, ½	Mather	9, 12	40x2½-56x3	L	Ross		W	144	36x3½-36x6	4,900	60, 85	209
210	W, Timken, 6560	Y	B	2, R	11½, 9½	E, E	P, Smith	½, ½	Detroit	8, 12	40x2½-52x3	L	Ross	54, 0	W, Bimel	148	36x4-36x7	4,450	50, 70	210
211	W, Wisc., 800J	Y	B	2, R	12½, 10½	E, E	P, Parish & B	½, ½	Sheldon	9, 11	41x2½-52x3	L	Ross	61, 2	I, Smith	150	36x4-36x7	4,800	53, —	211
212	S, Own	Y	B	2, R		C, E	P	½, ½	T			R	Own		W	97		3,600		212
214	I, Clark, 2	N	S	2, R	14, 13	C, E	P, Parish & B	½, ½	Higgins	8,13	40x2½-52x3	L	Lavine	48, 0	W, Bimel	144	36x7-40x8	3,800	30, 75	214
215	I, Clark, 2	N	B	2, R	11, 11	C, E	R, Savage	½, ½	Mather	9, 12	40x2½-52½x3	L	Lavine	52, 0	S. Clark	154	36x4-36x7	4,000	50, 80	215
215a	I, Russel, PI300	Y	B	2, R	10½, 11½	C, E	P, Detroit	½, ½	Mather	9, 10	40x2½-52½x3	L	Lavine	48, 0	W, Wayne	135	34x3½-34x6	4,450	—, 90	215a
216	W, Timken, 6560	N	W	2, R	11½, 9½	E, E	R, Own	½, ½	Philadelphia	12, 14	44x2½-50x3	L	Ross	40, 0	W, Schwarz	150	36x4-36x6	4,500	45, 70	216
217	W			2, R		E, E	R	½, ½					Ross			152	36x4-36x7			217
218	W, Wisc., 800C	Y	W	2, R	11, 10	E, E	R, Own	½, ½	Iron City	9, 12	40x2½-52x3	L	Ross	50, 0	W, E & O	138	36x4-36x4d	4,200	50, 70	218
218a	I, Kennedy			2, R				½, ½	Perfection				Lavine		W, St. M'rys	152	36x6-38x7p	5,000		218a
219	W, Sheldon, W103	Y	B	2, R	11, 10½	E, E	P, Savage	½, ½	Iron City	10, 15	40x2½-54x2½	L	Gemmer	51, 9	W, Jones	144	36x4-36x7	4,250	50, 70	219

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3,000 (Jumbo)—4,000 (Day-Elder) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	3,000 Pounds—Con.																			
140	Jumbo, 15	2,850	Buda, CTU	4	3¾x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast.	Y	M, Fuller	S, 3	Fuller, LTU-S.	Y	Arvac	140
141	Kalamazoo, G		Continental, J4	4	3½x5-22.5	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	141
142	Kearns, N	2,000	Hers'l-Spill, 7000	4	3½x5-19.6	FS	Pierce	P	B, Bush	N	Zenith	G	M, Berling	N	P, Borg & B	S, 3	Grant-Lees, 515	Y	Peters	142
143	Kelly-Sp'gf'd, K31.(ch'n)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Own	143
144	Kelly-Sp'gf'd, K32.(w'm)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Spicer	144
145	Kissel, General Utility	2,775	Own	4	3¾x5½-24.0	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	145
146	Kleiber, A	3,100	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	146
147	K-Z	2,450	Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Thermoid	147
148	Larrabee, N		Continental, N	4	3½x5-22.5	S	Simplex	T	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Universal	148
149	Maccar, L	2,925	Continental, C4	4	4¼x5½-27.2	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	149
150	Mack, AB(chain)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	150
151	Mack, AB(worm)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	151
152	Mapleleaf, AA		Hinkley HAA400	4	4x5½-25.6	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LTU5	N	Blood	152
154	Master, JW	2,690	Buda, OU	4	4¼x5½-27.2	S	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Spicer	154
155	Maxwell	1,472	Own	4	3¾x4¼-21.3	S		T	T, Own	N	Eagle	G	B	N	C, Own	S, 3	Own	N	Thermoid	155
156	Menominee, H	2,725	Continental, C4	4	3½x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU2	N	Spicer	156
157	Moreland, 19B	3,125	Continental	4	4¼x5½-27.2	FS	N	T	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	157
158	Myers, 80	1,875	Lycoming	4	3¾x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees	N	Universal	158
159	Napoleon, 11	1,860	Victory	4	3¾x5-19.6	F	N	T	T, Chicago	Y	Schebler	G	B	N	M, Fuller	S, 3	Fuller, TU1½	N	Universal	159
160	National, GA		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	160
161	Nelson & LeMoon, F1½		Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-L, 35		Thermoid	161
162	Noble, B30		Buda	4		FS	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU			162
163	Norwalk	1,750	Lycoming, K	4	3¾x5-19.6	FS	N		T, Chicago		Carter		B		P, Borg & B	S, 3	Grant-Lees, 515			163
164	O. K., K	2,675	Buda, ITU	4	4¼x5-32.4	FS	Pierce	T	T, R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, TU3		Hartford	164
165	Old Hickory, N	995	Lycoming, K	4	3¾x5-19.6			T	C, Standard		Carter		M, Connectic		C, Lycoming	S, 3	Grant-Lees			165
166	Old Reliable, A	2,350	Wisconsin, EU	4	4x5-25.6	F	N	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	166
166a	Orleans	2,700		4	4x5½-25.6	F		P	T	N	Master	G	M, Eisemann	N	M	I, 3	Cotta			166a
167	Packard, B	3,200	Own	4	4x5½-25.6	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Spicer-Th.	167
168	Paige, 52-19	2,980	Hinkl'y, HAA400	4	4x5½-25.6	F	Hinkley	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	168
169	Patriot, Lincoln	2,785	Hinkley, HAA400	4	4x5½-25.6	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Fuller, G5	N	Thermoid	169
170	Rainier, R6	2,450	Continental, N	4	3¾x5-19.6	FS	Monarch	P	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	170
170a	Ranger, C	2,575	Wisconsin, CAU	4	3½x5-22.5	FS	Duplex	P	T	N	Zenith	G	M, Dixie	N	M	S, 3	Fuller	N	Universal	170a
171	Reliance, A10	2,500	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU3	N	Peters	171
172	Republic, 11X	2,195	Continental, N	4	3½x5-22.5	FS	Ruggles	P	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 3	Fuller, TU1½	N	Hartford	172
173	Reynolds, 3A	3,250	Hinkley	4	4x5½-26.5	F	Hinkley	P	T, Own	Y	Stromberg	dg	M, Bosch	Y	M, Own	S, 4	Covert	N	Thermoid	173
173a	Rowe, CW	2,800	Wisconsin	4	3¾x5-22.5	F	Simplex	P	C, Fedders		Zenith		M, Bosch		M	S, 4	Brown-L		Spicer	173a
174	Royal	2,800	Wisconsin	4	3½x5-22.5		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			174
175	Sandow, CG	2,590	Continental, N	4	3½x5-22.5	S	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1½	N	Spicer	175
176	Schwarts, B2	2,175	Continental, J4	4	3½x5-22.5	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	176
177	Selden, 1½A	2,460	Continental, N	4	3½x5-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S,	Brown-L, 30	N	Spicer	177
178	Service, 31 (solids)	2,985	Buda, IU	4	4x5½-25.6	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	178
179	Service, 36 (pneumatics)	3,415	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	179
180	Signal, H	2,925	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	180
181	Southern, 15		Continental, N	4	3½x5-22.5	FS	Pierce	P	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	181
182	Sterling		Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	182
183	Stewart, 9	2,250	Continental, N	4	3½x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1½	N	Hartford	183
184	Stoughton, B	2,350	Waukesha, BUX	4	3½x5-22.5	FS	Waukesha	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe, 30		Thermoid	184
185	Sullivan, F	2,350	Buda, M	4	3¾x4¼-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Bosch	N	C, Hartford	S, 3	Covert, GI	N	Hartford	185
186	Texan, TK	1,525	Lycoming	4	3¾x5-19.6	FS	N	T	C, Own		Carter		B		P, Borg & B	S, 3	Muncie			186
187	Tiffin, GW	2,415	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 3	Fuller, GU3	Y	Peters	187
188	Tower, J	3,000	Continental, C4	4	4¼x5½-27.2	FS	N	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N		188
189	Transport, 30	2,250	Continental, N3½	4	3¾x5-22.5	F	Simplex	P	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Hartford	189
190	Traylor, C	2,875	Buda, ITU	4	4x5¼-25.6	S	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N		190
191	Triangle, A	2,450	Waukesha, BU4	4	3¾x5½-22.5	FS	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	191
192	Ultimate, A	3,200	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	192
193	United	2,445	Buda	4	3¾x5½-22.5						Stromberg		M		M	S, 3	Brown-Lipe			193
194	Universal, G		Buda	4	3¾x5-22.5		Monarch	P	T, Bremer		Zenith		M, Eisemann		P, Own	S, 3	Own			194
195	U. S., N		Continental, N	4	3¾x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	195
195a	U. S., NW		Continental, N	4	3¾x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	195a
196	Velie, 46	2,200	Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Stromberg	G	M, Berling	N	P, Borg & B	S, 3	Durston 034000	N	Arvac	196
197	Victor (Mich.), A		Continental, N	4	3¾x5-22.5	F	N	T	Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	197
198	Watson, 20		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	T, R'me-T'r'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	198
199	White Hickory, H	2,750	Continental, N	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1½	N	Arvac	199
200	Wichita, L	2,600	Waukesha, BX	4	3¾x5-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	200
201	Wilcox, B		Own	4	4¼x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		201
202	Wilson	2,450	Continental, N	4	3¾x5-22.5	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35		Thermoid	202
203	Winther, 39 (rear drive)	2,450	Wisconsin, CAU	4	3½x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1½	N	Peters	203
204	Winther, 430 (4-wh'l-dr)	2,850	Wisconsin, CAU	4	3½x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Peters	204
205	Wisconsin, B	1,750	Waukesha	4	3¾x5½-19.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			205
206	Witt-Will, N Special	2,150	Continental	4	3½x5-22.5		Pierce	P	C, Bremer		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	206
207	Wolverine, C		Continental	4	3¾x5-22.5		Monarch	T	T, Long		Stromberg		M, Eisemann	Y	M, Fuller	S, 3	Fuller		Universal	207
	3,500 Pounds:																			
208	Air-O-Flex, C		Buda, CTU	4	3¾x5½-22.5	P	Duplex	F	T, Spirex	N	Stromberg	G	M, Splitdorf	Y	P, Borg & B	S, 4	Brown-L, 85	N	Thermoid	208
209	Oneida, B9	2,915		4	4x5-25.6	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3		N	Peters	209
	4,000 Pounds:																			
210	Acme, A	3,050	Continental, C4	4	4¼x5½-27.2	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, RU	N	Blood	210
211	Atco, W20	2,875	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Hartford	211
212	Autocar, 21UF	2,300	Own	2	4¾x4¼-18.0	S	N	P	T, Own	N	Stromberg	G	M, Bosch	N	P, Own	S, 3	Own	N	Spicer	212
214	Beck, C	2,350	Continental	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU3	Y	Blood	214
215	Belmont, C	2,550	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Sterling	215
215a	Bethlehem, G	2,395	Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Universal	215a
216	Brinton, F	3,000	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Mayo	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50		Spicer	216
217	Collier, 20		Continental	4	4¼x5½-27.2		Monarch	P			Zenith		M, Eisemann		M, Fuller	S, 4	Fuller			217
218	Conestoga, 30	2,700	Continental, N	4	3¾x5-22.5	FS	Duplex	T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU3	N	Sterling	218
218a	Cook, 41	3,000	Hercules, CU3	4	4x5¼-25.6			T	T, Own			G	M, Berling		P, Borg & B	S, 4			Blood	218a
219	Day-Elder, D	2,950	Continental, C2	4	4¼x5½-27.2	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, RUN3C.	N	Hartford	219

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TRUCK SPECIFICATIONS

3,000 (Jumbo)—4,000 (Day-Elder)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
140	I, Clark, 1D	Y	B	2, R	11, 13½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	36x3½-36x5	3,600	50, 75	140
141	W, Wisc., 800F	N	W	2, R	9, 9½	E, E	R	½, ½	Sheldon	6, 11	40x2½-50x2½	L	Ross	51, 8	W, Bimel	144	36x4-36x5	5,080	—, 80	141
142	I, Torbensen, B	Y	S	2, R	14, 11	E, E	P	½, ½	Mather	6, 9	42x2½-52x3	L	Lavine		W, E & O	136	34x3½-34x6	3,630	68, 80	142
143	C, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10,11	40½x2½-43½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,590	50, 90	143
144	W, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10 12	40½x2½-47½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,685	50, 90	144
145	W, Sheldon, W-1500	Y	W	2, R	12⅝, 11	E, E	P, Smith	½, ½	Mather	10,11	38x2½-50x2½	L	Jacox	50, 0	W, Prudden	152	36x3½-36x5	4,000	51½, 69	145
146	W, Sheldon, W-103	Y	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W, Waterh'se	143	36x3½-36x6	4,900	50, 75	146
147	W, Timken, 6460	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	7, 9	40x2½-50x3	L	Lavine	30, 2	W, St. M'ry	134	36x3½-36x5	4,000		147
148	W, Sheldon, W-1500	Y	B	2, R	10½, 9½	E, E	P, Savage	½, ½	Merrill	7, 9	38x2½-53x2½	L	Ross		W, Hoopes	130	34x3½-34x5	3,600	36, 88	148
149	W, Timken, 6460	N	B	2, R	10½, 10½	E, E	P, Parish	½, ½	Merrill	7, 12	42x2½-54x2½	L	Ross		S. Dayton	150	36x4-36x6	4,300	—, 70	149
150	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x3½d	4,800	46, 67	150
151	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x3½d	4,900	47, 69	151
152	W, Sheldon, W-103	Y	B	2, R	9, 9½	E, E	R, Own	½, ½	Sheldon		42x2½-50x3	L	Ross		W, Hayes	144	34x4-36x6	4,800	50, 70	152
153	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Detroit	8, 10	44x2-52x2½	L	Ross	42, 0	W, Prudden	142	34x3½-34x5	3,900	55, 78	154
155	W, Own	Y	W	2, R	13, 11	E, E	P	½, ½	Detroit	7, 12	38x2½-52x2½	L	Own	52, 2	W, Kelsey	124	32x3-32x4	2,550	50, 70	155
156	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	144	36x3½-36x5	4,000		156
157	W, Timken, 6456	N	W	2, R	10½, 8½	E, E	P	½, ½	U. S	6, 10	38x2½-48x3	L	Ross	50, 0	I. Smith	126	36x3½-36x5	4,150	50, 65	157
158	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	8, 9	36x2-50x3	L	C.A.S		W, E & O	144	34x3½-34x5	3,200	50, 75	158
159	I, Clark, 1D	N	B	2, R	14, 13	C, C	R, Own	½, ½	Spring Perch	9, 12	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-36x5p	3,400	50, 65	159
160	W, Timken, 6460	Y	W	2, R	10½, 9½	E, E	P	½, ½	Coghlin	7, 10	40x2½-52x3	L	Ross	48, 0	W, Hayes	140	34x4-34x5			160
161	W, Timken, 6552	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x3½-36x6			161
162	W, Sheldon, W-103			2, R		E, E	P, Slick-Knox	½, ½	Tuthill				Lavine		W, Bimel	144	36x3½-36x5	4,680		162
163	W, Chicago, C			2, R		E, E	P, Own	½, ½	Standard				Lavine		W, E & O	130	34x3½-34x5			163
164	W, Wisconsin			2, R		E, E	P, Savage	½, ½	Tuthill				Ross		W, Bimel	146	36x3½-36x5			164
165	B, Salisbury			2, R		C, E	R, Detroit	½, ½	Tuthill				Lavine		W, Bimel	112	33x4-33x4			165
166	W, Sheldon, W21	Y	W	2, R	11, 9½	E, E	P	½, ½	Sheldon	9, 13	39x2½-54x3	R	Ross		W, Prudden	138	34x4-36x6	4,150	—, 90	166
166a	W	N		2, R		E, E	R	½, ½			40x2½-52x3		Ross		I, Smith	142	36x3½-36x5			166a
167	W, Own	N	S	2, R	9⅝, 9½	C, E	R, Own	½, ½		10, 11	41x2½-46x2½	L	Own	50, 0	W	144	34x3½-34x3½d	4,670	46, 67	167
168	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	9, 10	42x2½-52x3	L	Ross		W	140	34x3½-34x5	4,000	60, 75	168
169	W, Empire, N	Y	B	2, R	11, 11½	E, E	P, Detroit	½, ½	Cooper	8, 13	40x2½-52x2½	L	Ross	46, 6	W, Bimel	140	34x3½-34x5	3,900	45, 75	169
170	W, Sheldon, W-1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 14	38x2-50x2½	L	Lavine		W, Schwars	133	34x3-34x4	3,000	75, 75	170
170a	W	N	B	2, R	10, 9	E, E	P, Detroit	½, ½	Perfection	8, 11	40x2½-50x2½	L	Ditweiler	50, 0	W, St. M'rys	136	34x3½-34x5	3,600	40, 70	170a
171	E, Own	Y	W, Powrlok	2, R	10, 11½	E, E	P, Savage	½, ½	Sheldon	8, 11	36x2½-56x2½	L	Ross		W, Bimel	150	36x3½-36x5	4,500	35, 85	171
172	I, Torbensen, C2	Y	W, Powrlok	2, R		E, E	P, Detroit	½, ½	Mather	8, 15	39x2½-52½x2½	L	Jacox		W	144	34x4-34x6	3,300		172
173	W, Sheldon	Y	B	2, R	13½, 10½	E, E	R, Standard	½, ½	Perfection		40x2½-54x2½	L	Lavine		I. Smith	140	36x3½-36x6			173
173a	W, Sheldon			2, R		E, E		½, ½	Sheldon				Ross		W, Hoopes	133	36x6p-36x6p	3,850	—, 62	173a
174	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	128½	34x4-34x5			174
175	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage	½, ½	Garden City	7, 12	36x2½-52x2½	L	Ross	54, 0	W, Standard	135	34x3½-34x5	3,900	20, 70	175
176	I, Torbensen, B	Y	B	2, R	10, 11½	C, E	P, Parish	½, ½	Rowland	7, 13	38½x2½-54x3	L	Ross		W, Schwars	140	34x3½-34x5	3,600		176
177	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Perfection	10, 10	40x2½-50x2½	R	Lavine	48, 0	W	137½	34x3½-34x5	3,560	56, 75	177
178	W, Timken, 6460	Y	B	2, R	11½, 9½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	36x3½-36x6	4,850	—, 65	178
179	W, Timken, 6460	Y	B	2, R	11½, 10½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	35x5p-38x7p	4,900	—, 65	179
180	W, Timken, 6460	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	10, 11	44x2½-56x3	L	Ross	53, 0	W, Hayes	144	34x4-36x6	4,760	—, 73	180
181	W, Sheldon	Y	W	2, R			P, Parish & B	½, ½	Mather		38x2½-54x2½	L	Ross		W, Royer	143	34x3½-34x5d			181
182	W, Timken, 6460	N	B	2, R	10½, 10½	E, E	P	½, ½	Mather	8, 10	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x3½-36x5	4,720	47, 91	182
183	I, Clark, 1D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	8, 11	41x24-54x3	L	Ross	49, 0	W, Wayne	140	34x3½-34x5	3,440	56, 70	183
184	W, Sheldon, W-1501	N	W	2, R	11½, 11	E, E	P, Smith	½, ½	Sheldon	9, 11	40x2½-50x2½	L	Lavine	51, 0	W, Bimel	140½	36x3½-36x5	3,800	49, 69	184
185	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	R, Own	½, ½	Merrill	9, 9	38x2-52x3	L	Ross	45, 0	W, Wayne	129	36x3-36x5	3,500	54, 68	185
186	W, Chicago			2, R		E, E	P, Parish & B	½, ½	Maremont				C.A.S		W	144	34x4p-34x5			186
187	W, Sheldon, W102	N	R	2, R	10, 12	E, E	P	½, ½	Kalamazoo	9, 11	40x2-48x2½	L	Ross	47,0	I. Smith	135	36x3½-36x5	3,650	40, 60	187
188	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		42x2½-52x2½	L	Ross		W, Royer	142	35x5p-38x7p	4,520	—, 75	188
189	I, Clark, 1D	Y	B	2, R	11½, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	40x2½-54x3	L	Jacox		W	140	36x3½-36x5	3,450	30, 70	189
190	W, Sheldon, W103	Y	W	2, R		E, E	P, Savage	½, ½			38x2½-50x2½	L	Ross		W, Schwars	138	36x4-36x6	4,700		190
191	I, Clark, 1D	Y	W, Powrlok	2, R	9½, 10	C, C	R, Mason	½, ½	Detroit	9, 11	42½x2½-54x2½	L	Gemmer	47, 6	W, Royer	144	34x3½-34x6	3,750	60, 80	191
192	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P	½, ½	Sheldon	9, 13	39x2½-52x2½	L	Ross	47, 0	W	140	36x3-36x5	4,500	50, 70	192
193	I, Clark			2, R			P	½, ½				L			W	145	34x3½-34x5			193
194	W, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	133	34x3½-34x5			194
195	I, Clark, 1D	Y	B	2, R	11, 12½	C, E	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwars	144	36x3½-36x5	3,800	47, 85	195
195a	W, Sheldon, W1501	Y	B	2, R	11, 12½	C, E	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwars	144	36x3½-36x5	3,800	47, 85	195a
196	I, Torbensen, CT	Y	W, Powrlok	2, R	10½, 12	C, E	P, Dunbar	½, ½	Mather	8, 11	40x2½-54x3		Ross	46, 0	W, Bimel	133	36x3½-36x5	3,650	52½, 85	196
197	I, Clark	Y	B, W	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden	140	-x4—x5	3,250	80, 80	197
198	W, Empire, N	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Sheldon		40x2½-52x3	L	Lavine		W, Crane	144	36x3½-36x5			198
199	W, Timken, 6460	Y	W	2, R	10, 10	E, E	P, Parish & B	½, ½	Sheldon	8, 10	41½x2½-50x3	L	Ross	51, 0	W, Bimel	144	36x3½-36x5	3,750	54, 76	199
200	W, Sheldon	Y	W	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit		40x2½-50x3	R	Ross		W	144	36x3½-36x5	4,100		200
201	W, Wisc., 800E	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 10	40x2½-52x3	L	Own		I. Smith	144	36x4-36x5	4,600	25, 75	201
202	W, Timken, 6460	Y	B	2, R	10½, 10½	E, E	R	½, ½	Perfection	8, 12	38x2½-52x2½	L	Ross		W	140	36x3½-36x5	3,800		202
203	I, Clark, 1D	Y	B	2, R	10, 11½	C, C	R, Own	½, ½	Harvey	9, 12	40x2½-48x2½	R	Lavine	56, 0	I. Own	140	34x3½-34x5	3,600	40, 75	203
204	I, Clark, 1D	Y	B	4, FR	11½, 10½	C, C	R	½, ½	Harvey	9, 12	40x2½-48x2½	L	Lavine	58, 0	I. Own	132	32x4-32x4	4,100	30, 60	204
205	W, Sheldon			2, R		E, E	P, Smith	½, ½					Lavine		W	136	34x3½-34x4			205
206	W, Timken			2, R		E, E	P, Parish	½, ½	Delaney			L	Ross		W, Arch'ld	120	36x3½-36x5			206
207	I, Russel			2, R		C, E	P, Parish & B	½, ½	Tuthill			L	Gemmer		W	140	34x3½-34x5			207
208	I, Russel, P1-300	N	B	2, R	15, 14	E, C	P	½, ½				L	Ross		W	150	36x3½-36x5	4,000	40, 70	208
209	W	Y	B	2, R	10½, 10	E, E	P, Detroit	½, ½	Mather	9, 12	40x2½-56x3	L	Ross		W	144	36x3½-36x6	4,900	60, 85	209
210	W, Timken, 6560	Y	B	2, R	11½, 9½	E, E	P, Smith	½, ½	Detroit	8, 12	40x2½-52x3	L	Ross	54, 0	W, Bimel	148	36x4-36x7	4,450	50, 70	210
211	W, Wisc., 800J	Y	B	2, R	12½, 10½	E, E	P, Parish & B	½, ½	Sheldon	9, 11	41x2½-52x3	L	Ross	61, 2	I. Smith	150	36x4-36x7	4,800	53, —	211
212	S, Own	Y	B	2, R		C, E	P	½, ½	T			R	Own		W	97		3,600		212
214	I, Clark, 2	N	S	2, R	14, 13	C, E	P, Parish & B	½, ½	Higgins	8,13	40x2½-52x3	L	Lavine	48, 0	W, Bimel	144	36x7-40x8	3,800	30, 75	214
215	I, Clark, 2	N	B	2, R	11, 11	C, E	R, Savage	½, ½	Mather	9, 12	40x2½-52½x3	L	Lavine	52, 0	S. Clark	154	36x4-36x7	4,000	50, 80	215
215a	I, Russel, P1300	Y	B	2, R	10½, 11½	C, E	P, Detroit	½, ½	Mather	9, 10	40x2½-52½x3	L	Lavine	48, 0	W, Wayne	135	34x3½-34x6	4,450	—, 90	215a
216	W, Timken, 6560	N	W	2, R	11½, 9½	E, E	R, Own	½, ½	Philadelphia	12, 14	44x2½-50x3	L	Ross	40, 0	W, Schwars	150	36x4-36x6	4,500	45, 70	216
217	W			2, R		E, E	R	½, ½					Ross			152	36x4-36x7			217
218	W, Wisc., 800C	Y	W	2, R	11, 10	E, E	R, Own	½, ½	Iron City	9, 12	40x2½-52x3	L	Ross	50, 0	W, E & O	138	36x4-36x4d	4,200	50, 70	218
218a	I, Kennedy			2, R				½, ½	Perfection				Lavine		W, St. M'rys	152	36x6-38x7p	5,000		218a
219	W, Sheldon, W103	Y	B	2, R	11, 10½	E, E	P, Savage	½, ½	Iron City	10, 15	40x2½-54x2½	L	Gemmer	51, 9	W, Jones	144	36x4-36x7	4,250	50, 70	219

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4,000 (Dearborn—Wolverine) **INTERNAL-COMBUSTION**

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	4,000 Pounds—Con.																			
220	Dearborn .48	2,590	Buda	4	3¾x5½-22.5	F	Simplex	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller	N	Hartford	220
221	Defiance, E	2,750	Own	4	3¾x5-22.5		N	P	C, Perfex		Stromberg			Y	P, Borg & B	S, 3	Grant-Lees			221
222	DeKalb, E2	2,250	Continental	4	4¼x5½-27.2		N	P	T, Jackson		Master		M, Eisemann		M, Fuller	S, 3	Fuller		Hartford	222
223	Denby, 134	2,800	Continental, N	4	3¾x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	223
224	Diamond T, U	3,485	Dia. T Design	4	4x5½-25.6	F	Unit Mot.	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 4	Covert	N	Spicer	224
225	Dorris, K4	3,400	Own	4	4¼x5½-28.9	F	Own		C, McCord	Y	Stromberg	G	M, Bosch	N	M, Warner	S, 4	Warner, T53	N	Spicer	225
225a	Douglas, H (int.)	2,800	Buda	4	4¼x5½-27.2	F	Pierce	P	T, Own		Schebler		M, Eisemann		M, Fuller	S, 3	Fuller		Arvac	225a
225b	Douglas, H (worm)	3,000	Buda	4	4¼x5½-27.2	F	Pierce	P	Own		Schebler		M, Eisemann		M, Fuller	S, 3	Fuller		Arvac	225b
225c	Duty	1,490	Victory	4	—34.6	FS	N	T	C	N	Zenith	G	M, Simms	N	M, Covert	S, 3	Covert	N		225c
225d	Eagle	1,995	Buda, CTU	4	3¾x5½-22.5	F		P	C	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert		M & E	225d
226	Erie			4	4¼x5½-27.2		Pierce		T		Stromberg		M, Bosch		M	S, 4				226
227	Fargo, P	2,250	Continental, N	4	3¾x5-22.5	FS	Monarch	T	T, Own	N	Rayfield	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	227
228	Federal, UE	3,150	Continental, C4	4	4¼x5½-27.2	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit	N	Spicer	228
229	Forschler, B	2,750	Continental	4	4¼x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 3	Fuller		Own	229
230	Fulton, C	2,350	Herschell-Spill	4	3¾x5-19.6		Pierce	P	T, G & O		Carter		M, Simms	N	M, Covert	S, 3	Covert		Universal	230
231	Gabriel, E	3,250	Buda	4	4¼x5½-28.9		Duplex	P	C, G & O		Rayfield		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Spicer	231
232	Garford, 70H	3,190		4	4¼x5½-28.9	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		232
233	Giant, 16	3,050	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	C, Own	Y	Schebler	G,K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	233
234	GMC, 41A		Continental, C2	4	4¼x5½-27.2	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	234
235	Gramm-Bernstein, 20	3,275	Continental, C2	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Stromberg	G	B, North East	N	M, Fuller	I, 4	Own	N	Own	235
235a	G. & J	3,850	Continental	4	4x5½-25.6	F	N	P	T	Y		G	M, Bosch	N	M	S, 4		Y		235a
236	Hal-Fur, D	2,250	Hinkley, HA400	4	4x5½-25.6	F	Hinkley	P	T, G & O		Strombreg	G	M, Bosch		P, Borg & B	S, 4	Brown-L		Peters	236
237	Hall	2,875	Continental, C4	4	4¼x5½-27.2	FS	Simplex	P	T, Long	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	237
237a	Hawkeye, M	2,915	Buda	4	4¼x5½-28.9		Simplex	P	T, Ideal		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller		Hartford	237a
238	Hendrickson	3,000	Buda, BU4R	4	4¼x5½-28.9	S		P	T, Chicago		Stromberg		M, Dixie		M Fuller	S, 4	Fuller			238
238a	H & M, 2		Hercules	4	3¾x5-19.6	FS		T	T, G & O		Carter	G	M, Bosch		M, Fuller	S, 4	Fuller		Thermoid	238a
239	Independent (Iowa), F	2,490	Continental	4	4¼x5½-27.2		N	P	C, Chicago				M, Bosch	N	M, Fuller	S, 3	Fuller		Blood	239
240	Independent (Ohio), G	2,300	Continental	4	4¼x5½-27.2		Monarch	P	T, Long		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	240
240a	Indiana, 20	3,140	Own	4	4¼x5½-27.2	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35	N	Acme	240a
241	International, G	2,800	Own	4	4x5-25.6	FS	Own	T	T, Long, McC	Y	Ensign	G	M, Dixie	N	M, Own	S, 3	Own	Y	Own	241
242	Jumbo, 20	3,100	Buda, CTU	4	3¾x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast	Y	M, Fuller	S, 3	Fuller, LTUS	Y	Arvac	242
243	Keldon, 19	2,885	Buda	4	4¼x5½-28.9		Waukesha	P	C, Eureka		Stromberg		M, Eisemann		P, Borg & B	S, 3	Covert		Acme	243
244	Keystone, 40	1,795	Own	4	4x4½-25.6		Pierce	P	T, McCord		Zenith		M, Berling	N	M, Fuller	S, 3	Fuller		Spicer	244
245	Kimball, B	3,675	Wisconsin, TU	4	4x6-25.6	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	245
246	Kleiber, BB	3,600	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	246
247	Lange, B	2,950	Continental	4	4¼x5½-27.2		Pierce	T	T, Own		Stromberg		M, Bosch	N	M, Hele-Shaw	I, 3	Own		M & E	247
247a	Luedinghaus, K	2,790	Waukesha, RU4R	4	4¼x5½-28.9	F	Waukesha	P	T, Own	N	Schebler	G	M, Splitdorf	N	P, Borg & B	S, 3	Detroit		Spicer	247a
247b	Luverne, BBL		G, B & S	4	3¾x4¼-22.5	S		T	C		Schebler	G	M, Bosch		M	S, 3	Detroit		Uni. Prod.	247b
248	Mack, AB (chain)	3 300	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	248
24J	Mack, AB (worm)	3,300	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	249
249a	Marshall, 2			4	3¾x5-19.6			T				G			P, Borg & B	S, 3				249a
250	Menominee, D	3,245	Continental, C4	4	4¼x5½-27.2	S	Monarch	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	250
251	Midland, MT	3,000	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S,	Fuller, JU2			251
252	Muskegon, 20	2,325	Continental	4	4¼x5½-27.2		Pierce	P	C, Mayo		Detroit		M, Eisemann	N	M, Fuller	S, 3	Fuller		Arvac	252
253	Mutual, 2A	3,375	Wisconsin, TAU	4	4x6-25.6	F	Duplex	P	C, Perfex	N	Stromberg	G	M, Bosch	Y	M, Hele-Shaw	S, 4	Fuller, G5	N	Spicer	253
254	Nash, 3018	2,550	Own	4	3¾x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 4	Detroit, H36	N	Own	254
255	Nash, 4017 Quad	3,250	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Own	N	Own	255
256	National, HA		Waukesha RU4K	4	4¼x5½-28.9	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 35	N	Spicer	256
257	Neteo, D	3,400	Continental, C4	4	4¼x5½-27.2	S	N	P	T, R'me-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Hartford	257
258	Niles, (Pa.), E	2,800	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	C, Modine	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, O		Blood	258
259	Noble, C40		Buda	4	4x5½-25.6		Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		M & E	259
260	Northway, B2	3,400	Own	4	4x6-25.6	FS	Pierce	P	C, G & O	Y	Stromberg	G	B	Y	M, Fuller	S, 4	Fuller, GU6	N	Spicer	260
261	Northwestern, WT	3 300	Continental, C4	4	4¼x5½-27.2	S		P	C, Mayo		Stromberg	G	M, Bosch		C, Hartford	S, 3	Covert		Blood	261
262	Olympic, A	3,300	Continental, C4	4	4¼x5½-27.2	FS	Monarch	P	T, Long		Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	262
263	Oshkosh, A	3,750	Hers'l-Spill, 7000	4	3¾x5-19.6	FS	Duplex	T	C, Own	N	Zenith	G	B	Y	M, Brown-L	S, 4	Brown-L, 35	Y	Peters	263
264	Packard, C	3,600	Own	4	4x5½-25.6	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	264
265	Palmer	2,277	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	C, Fedders		Stromberg		M, Bosch		M, Fuller	S, 3	Fuller			265
267	Parker, F20	3,500	Wisconsin, TAU	4	4x6-25.6	F	Monarch	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Fuller, G	N	Blood	267
268	Pierce-Arrow, X4	4,300	Own	4	4x5½-25.6	F	Own	P	T, Own	N	Own	G	M, Splitdorf	N	C, Own	S, 4	Own	N	Own	268
269	Pioneer, F	2,790	Continental	4	4¼x5½-27.2		Pierce	P	T, McCord		Stromberg		M, Eisemann	N	M, Brown-L	S, 4	Brown-L		Spicer	269
270	Power, B	2,950	Continental, C2	4	4¼x5½-27.2	FS	Pierce	P	C, Candler	N	Stromberg	G	M, Simms	N	M, Fuller	S, 4	Fuller		Universal	270
271	Rainier, R8	2,900	Continental, N	4	3¾x5-22.5	F S	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 30	Y	Hartford	271
272	Rowe, CDW	3,300	Wisconsin	4	4x5-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	272
273	Royal	3,200	Wisconsin	4	4x6-25.6		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own	N		273
274	Sandow, I	2,775	Continental, N	4	3¾x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Fuller, TU¾		Spicer	274
275	Schacht		Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 4	Own	N	M & E	275
276	Shaw, M3	2,700	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Long		Zenith		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			276
277	Southern, 20	2,890	Buda, ITU	4	4x5½-25.6	FS	Pierce	T	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	277
279	Sterling		Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	279
280	Stewart, 7	2,875	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Hartford	280
281	Stoughton, D	2,800	Hercules, CU3	4	4x5½-25.6	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe, 35		Thermoid	281
282	Sullivan, E	3,350	Buda, HTU	4	4¼x5½-28.9	S	N	P	T, Bush	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	282
283	Superior, E	2,750	Continental, C2	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Arvac	283
284	Traffic, C	1,495	Continental, N	4	3¾x5-22.5	FS	N	T	C, Own	N	Carter	G	M, Bosch	N	M, Covert	S, 3	Covert, MU-T	N	Universal	284
285	Transport, 50	2,785	Continental, C2	4	4¼x5½-27.2	FS	Duplex	P	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	Hartford	285
286	Triangle, C	2,850	Waukesha, BU4	4	3¾x5½-22.5	S	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	286
287	Triumph, H	2,850	Buda, CTU	4	3¾x5½-22.5	FS	Pierce	P	C, Modine	Y	Bennett	G	M, Dixie	N	P, Borg & B	I, 3	Cotta, AAU	N	Hartford	287
287a	Twin City, 2 (Minn'p'l's)		Buda, ITU	4	4x5½-25.6	F	Simplex	P	C, Spirex		Schebler	G	M, Bosch		M, Fuller	S, 3	Fuller		Arvac	287a
287b	U. S., N. C		Continental, N	4	3¾x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	287b
287c	U. S., NP		Continental, N	4	3¾x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	287c
288	Universal, D		Own	4	4¼x5½-28.9		Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			288
289	Victor (Mich.), B		Continental, N	4	3¾x5-22.5	F	N	T	C, Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	289
290	Vim, 22	3,150	Hercules	4	3¾x5½-22.5	F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	290
290a	Wells, C1	2,800	Weidely	4	4¼x5½-27.2	FS	Monarch	P			Stromberg	G	M, Berling		M	I, 4	Cotta		Acme	290a
291	White, 20	3,300	Own	4	3¾x5½-22.5	FS	N	P	C	N	Own	G	M		P, Own	S, 4	Own	N	Own	291
292	Wichita, M	2,800	Waukesha, BX	4	3¾x5½-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	292
293	Winther, 49	3,250	Wisconsin, EAU	4	4x5-25.6	F	N	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	293
293a	Wolverine, D		Continental	4	3¾x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller			293a

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TRUCK SPECIFICATIONS

4,000 (Dearborn—Wolverine)

Line no.		Hotchkiss drive? (Yes or No)		Number and location of driving-wheels (Front, Rear).		Service and emergency brakes (Contracting, Expanding).		Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).		Leaves in front and rear springs.		Driver's position (Left, Right).		Turning-circle diameter (feet and inches).		Wheel-base (standard).		Weight of chassis (pounds).		Line no.
	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.		Differential (Bevel, Spur, Worm) and make.		Clearance under front and rear axles.		Frame material (Pressed-steel, Rolled-steel) and make.		Make of springs.		Length and width of front and rear springs.		Make of steering gear.		Wheels (Iron, Steel, Wood) and make.		Front and rear tire sizes (dual, pneumatic).		Perc. of weight on rear axle when empty & when loaded.	
220	W, Wisconsin	Y	B	2, R	10¼, 12	E, E	R, Own	½, ½	Maremont	7, 11	41½x2½-48x3	L	Ditweiler	49, 4	W, Crane	148	34x4½p-34x7	3,500	50, 80	220
221	I, Torbensen			2, R		E, E	P, Detroit		Detroit			L	Own		W, Crane	140	35x5p-38x7			221
222	W, Timken			2, R		E, E	P, Parish					L	Ross		W, Schwarz	134	34x3½-36x5			222
223	I, Russel, 3-201	Y	B	2, R	12, 13	C, E	P, Detroit	½, ½	Detroit	8, 13	44x2½-52x3	L	Ross	57, 1	W, Hayes	144	36x3½-36x6	3,950	50, 75½	223
224	W, Timken, 6560	Y	W	2, R		E, E	P, Smith	½, ½	Mather	9, 12	40x2½-53x2½	L	Gemmer		W	160	36x4-36x7	4,800	50, 90	224
225	W, Timken, 6552	Y	W	2, R	11½, 9½	E, E	P, Smith	½, ½	Rowland	9, 15	42x2½-56x3	L	Ross	60, 0	I, Smith	144	36x4-36x7	5,050	86, 70	225
225a	I, Torbensen			2, R					Own				Ross			128	36x4-36x7	3,900		225a
225b	W, Wisconsin			2, R					Own				Ross			128	36x4-36x7	3,900		225b
225c	I, Russel			2, R	—, 12	E, C	R	½, ½				L		53, 0	W	134	34x3½-34x5	3,350		225c
225d	I, Russel	Y		2, R				½, ½		8, 16		L	Lavine		W	130	34x3½-34x6	4,100		225d
226	W, Timken			2, R			P				40x2½-54x3		Ross	50, 9		144	34x3½-36x5			226
227	I, Russel, U	Y	B	2, R	10, 12	E, C	R, Own	½, ½	Sheldon			L	Jacox		W	140	36x4-36x6	4,200	85, 80	227
228	W, Timken, 6560	N	B	2, R	12½, 9	E, E	P	½, ½	Mather	9, 13	40x2½-54x3	L	Gemmer	50, 9	W, Auto	156	36x4-36x7	4,800	60, 71	228
229	W, Sheldon			2, R		E, E	R, Own					L	Ross		I, Smith	144	36x4-36x7			229
230	I, Russel			2, R		C, C	P, Parish & B	½, ½	Rowland			L	Lavine	48, 0	W, E & O	137	34x4-34x6			230
231	W, Timken			2, R		E, E	P, Parish		Merrill			L	Gemmer		W, Standard	156	36x4-36x7			231
232	W	Y	B	2, R		E, E	P			9, 11	42x2½-50x2½	L	Ross	57, 0	W	144	36x4-36x7	4,590		232
233	W, Sheldon, W103	Y	B	2, R	12½, 10½	E, E	P, Hydraulic	½, ½	Mather	8, 10	40x2½-56x3	R	Ross		W, Wayne	168	36x4-36x7	4,500	55, 75	233
234	W, Timken, 6560	N	B	2, R	12½, 9½	E, E	P Smith	½, ½	Detroit	8, 10	40x2½-54x3	L	Jacox		S, Own	144	36x4-36x7	4,855	53, 74	234
235	W, Sheldon, W103	Y	B	2, R	11, 10½	E, E	P, Own	½, ½	Perfection	11, 12	40½x2½-52x2½	L	Ross	51, 0	W, Bimel	144	36x4-36x7	5,100	72, 91	235
235a	W	Y		2, R		E, E	R	½, ½			40x2½-54x3	L			W	146	36x4-36x7	4,900		235a
236	W, Timken			2, R				½, ½	Perfection				Gemmer		W, Standard		35x5p-35x5p	3,400		236
237	W, Timken, 6552	Y	W	2, R	12, 9	E, E	R	½, ½	Perfection	9, 12	40x2½-54x3	L	Gemmer		I, Smith	156	36x4-36x4	4,825	25, 80	237
237a	I, Clark			2, R		C, E	R, Own	½, ½	Detroit			L	Ross		W, Bimel	148½	36x4-36x6			237a
238	W, Timken			2, R					Tuthill				Ross		W	140	36x4-37x7			238
238a	I, Torbensen			2, R				½, ½	Mather				Lavine			144	34x4-38x7p	3,400		238a
239	I, Russel			2, R		C, E	R, Own		Garden City			L	Lavine		W, Prudden	146	34x4-34x6			239
240	W, Wisconsin			2, R		E, E	P, Parish & B		Iron City			L	Ross		S, Indestruct	144	34x4-34x6			240
240a	W, Sheldon, W-103	N	B	2, R	12½, 10½	E, E	R	½, ½	Sheldon	9, 11	40x2½-50x3	L	Wohlrab	48, 0	W, Bimel	150	36x4-36x7	5,360	58, 68½	240a
241	I, Own		B	2, R	10½, 12	E, E	P	½, ½		10, 14	39½x2½-55½x3	L	Own		W	138	36x4-36x6	4,060	50, 68	241
242	I, Clark, 1D	Y	B	2, R	11, 15½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	35x5p-38x7p	3,750	50, 75	242
243	I, Russel			2, R		C, E	R, Own	½, ½	Champion			L	Ross		I, Smith	144	36x4-36x7			243
244	I, Russel			2, R		E, E	R, Own		Rowland			L	Ross		W, Wayne	144	34x4½p-36x5			244
245	W, Sheldon, W102	Y	B	2, R		E, C	P, Parish	½, ½	U. S	10, 11	40½x2½-47x2½	L	Ross	39, 6	W, Weston		36x6p-36x7		50, 80	245
246	W, Timken, 6560	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W, Waterb'se	153	36x4-36x7	5,300	50, 75	246
247	C, Own			2, R		C, E	R, Own		Standard			L	Gemmer		W, Hoopes	136	36x4-36x6			247
247a	W, Wisconsin, J	N	B	2, R	10½, 10½	E, E	P, Parish & B	½, ½	Tuthill	9, 12	42x2½-54x3	L	Lavine		W, Bimel	145	36x4-36x7	4,400	—, 80	247a
247b	I			2, R				½, ½					Lavine		W, Own	136	34x4p-34x5			247b
248	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W, Schwarz	Opt.	36x4-36x4d	4,900	47, 70	248
249	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W, Schwarz	Opt.	36x4-36x4d	5,000	48, 70	249
249a	W			2, R				½, ½								132	34x5-34x5			249a
250	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	160	36x4-36x4d	4,700		250
251	W, Timken, 6552			2, R		E, E	R, Own	½, ½					Ross		I, Smith	144	36x4-36x4d			251
252	I, Torbensen			2, R		C, E	P, Parish & B	½, ½	Sheldon			L	Lavine		W, Prudden	144	36x4-36x6			252
253	W, Sheldon, W21	N	B	2, R	11, 9½	E, E	P, Parish & B	½, ½	Mather	8, 10	41x2½-56x3	L	Ross	52, 0	I, Smith	152	36x4-36x8	5,800	40, 71	253
254	I, Clark, 2D	Y	W	2, R	9½, 9½	C, C	P, Own	½, ½	Alloy	10, 12	37½x2½-52x2½	L	Jacox	50, 0	W, Auto	144	34x4-34x6	3,850	51, 73½	254
255	I, Own	Y	W	4, FR	14½, 14½	E, C	P, Own	½, ½	Mather	9, 8	48x2½-48x2½	L	Lavine	50, 0	S	124	36x5-36x5	6,250	33½, 55	255
256	W, Timken, 6560	N	W	2, R	10½, 9	E, E	R	½, ½	Mather	9, 11	40x2½-54x3	L	Ross	26, 0	W, Hayes	141	34x4-34x4d	5,000		256
257	W, Timken, 6560	Y	B	2, R	12, 11	E, E	P	½, ½	Perfection	8, 12	39x2½-49x3	L	Ross		W, Arch'ld	168	36x4-36x7	4,940	57, 65	257
258	W, Timken, 6550	N	W	2, R	11, 9	E, E	P, Savage	½, ½	Iron City	9, 14	45x2½-53x3	L	Gemmer		W, Hoopes	140	36x4-36x7	4,600		258
259	W, Sheldon			2, R		E, E	P, Slick-Knox	½, ½	Spring Perch			L	Lavine		W, Bimel	148	36x4-36x7	4,900		259
260	W, Sheldon, W21	Y	B	2, R	14, 9	E, E	P, Parish & B	½, ½	Perfection	9, 10	42x2½-54x3	L	Ross	50, 0	S, Clark	146	36x4-36x4d	5,300	58½, 77½	260
261	W, Sheldon			2, R				½, ½	Sheldon				Ross			164	34x4-36x7	4,900		261
262	W, Timken, 6560	N	B	2, R	10, 10	E, E	P, Savage	½, ½	Mather	7, 12	39x2½-50x3	L	Ross		W, St. M'r'y	158	36x4-36x7	4,850		262
263	B, Own	Y	B	4, FR	10½, 10½	C, C	P, Smith	½, ½	Tuthill	10, 11	50x2½-54x2½	L	Ross	52, 0	W, Bimel	130	36x6p-36x6p	4,200		263
264	W, Own	N	S	2, R	9½, 8⅝	C, E	R, Own	½, ½		11, 11	41x2½-46x2½	L	Own	56, 0	W	144	34x4-34x4d	5,100	48, 70	264
265	W, Own			2, R		E, E	P, Own	½, ½	Tuthill				Ross		W, Bimel	150	34x4-36x4d			265
267	W, Own,	N	B	2, R	9½, 10	C, E	P, Smith	½, ½	Tuthill	8, 12	51x3-60x3	L	Ross	56, 0	W, Bimel	150	34x4-36x4d	5,200	51, 71	267
268	W, Own	N	S	2, R	13, 9½	C, E	P, Parish	½, ½	Spring Perch	10, 13	41x2½-54x3	R	Own	42, 0	W, Own	150	36x4-36x4d	6,250	60, 75	268
269	W, Timken			2, R		E, E	P, Parish					L	Ross		S, Budd	144	36x4-36x7			269
270	W, Timken	Y		2, R		E, E	R, Own	½, ½	Detroit		44x2½-56x3	L	Ross		W, Hayes	150	36x4-36x4d			270
271	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P, Parish	½, ½	Perfection	9, 12	38x2½-50x2½	L	Ross		W, Schwarz	147	34x5-34x6	3,450	75, 75	271
272	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	140½	34x4-36x3½d	4,500	—, 62	272
273	W, Timken			2, R		E, E	R, Own		Merrill				Ross			132	36x4½-36x6			273
274	I, Torbensen, C2	Y	B	2, R	13, 13½	C, E	P, Savage	½, ½	Garden City	8, 12	38½x2½-54x3	L	Ross	60, 0	W, Standard	150	36x4-36x6	4,300	20, 70	274
275	W, Own	N	B	2, R	11, 9	C, E	R, Own	½ ½	National	9, 14	35x2½-50x3	L	Own		W, St. M'rys	156	36x4-36x7	5,500	—, 70	275
276	W, Timken			2, R			P, Smith		Perfection				Gemmer		W	153	36x4-36x6			276
277	W, Sheldon	Y	W	2, R			P, Parish & B		Mather		38x2½-54x2½	L	Ross		W, Royer	157	35x3-35x5			277
279	W, Timken, 6560	N	B	2, R	12½, 10	E, E	P, W	½c ½c	Mather	8, 11	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x4-36x6	5,000	45, 97	279
280	I, Clark, 2D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½	Detroit	9, 12	41x2½-54x3	L	Ross	50, 0	W, Wayne	156	34x4-34x7	4,460	59, 72	280
281	W, Sheldon, W103	N	W	2, R	12½, 10½	E, E	P, Detroit	½, ½	Sheldon	9, 12	40x2½-50x3	L	Lavine	51, 0	W, Bimel	140½	36x4-36x7	4,600	49, 69	281
282	W, Timken, 6560	Y	B	2, R	10¾, 10	E, E	Parish & B	½, ½	Sheldon	9, 11	40x2½-52x3	L	Ross	52, 0	W, Wayne	150	36x4-36x7	4,750	53, 71	282
283	I, Torbensen, CE	Y	B	2, R	13, 13	C, E	P	½, ½	Tuthill	8, 13	38x2½-51x3	L	Ross	46, 0	W, Schwarz	144	36x4½-36x6	3,600	75, —	283
284	I, Russel, PI-302	Y	B	2, R	11, 12	C, E	R, Own	½, ½	Detroit	9, 10	36½x2-46x2½	L	Own	48, 6	W, Bimel	132	34x3½-34x5	3,175	42, 85	284
285	I, Clark, 2D	Y	B	2, R	10½, 11½	C, E	P	½, ½	Detroit	9, 13	40x2½-54x3	L	Jacox		W	150	36x6p-40x8p	4,250	50, 70	285
286	I, Clark, 2D	Y	W, Powrlok	2, R		C, C	R, Mason	½, ½	Detroit	10, 12	42½x2½-54x3	L	Gemmer	56, 0	W, Royer	147	36x4-36x6	4,200	60, 80	286
287	I, Russel, P-300	Y	B	2, R	12, 13½	C, E	R	½, ½	Higgins	9, 11	36x2½-50x2½	L	Lavine	46, 0	W, Standard	144	36x3½-36x5	4,200	40, 70	287
287a	I, Clark			2, R				½, ½	Mather				Ross		W, Bimel	150	36x6p-40x8p	4,800		287a
287b	I, Clark, 1D	Y	B	2, R	11, 12¾	E, C	P	½, ½	Sheldon	9, 10	38½x2½54x2½	L	Lavine	50, 0	W, Schwarz	144	35x5p-38x7p	3,800	47,85	287b
287c	W, Sheldon, W1501	Y	B	2, R	11, 12½	E, C	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwarz	144	35x5p-38x7p	3,800	47, 85	287c
288	C, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	132	36x5-36x4d			288
289	I, Clark	Y	BW	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden	140	—x4—x5	3,250	80, 80	289
290	W, Sheldon, W102	Y	W	2, R	12¼, 10	E, E	P	½, ½	Sheldon	9, 12	42x2½-56x3	L	Gemmer	37, 10	I, Smith	142	36x4-36x6	4,700	40, 70	290
290a	I												Lavine		I, Smith	168	36x4-36x8	4,400		290a
291	B, Own	N	B	2, R	10⅜, 9	C, E	P	½, ½				L	Own	60, 0	W	157½	36x4-36x7	4,150	54, 70	291
292	W, Sheldon	Y	W	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit		40x2½56x3	R	Ross		W	144	36x3½-36x6	4,400		292
293	I, Clark, 2D	Y	B	2, R	12, 11	C, C	R, Own	½, ½	Mather	8, 10	46x2½-56x3	R	Ross	60, 0	I, Own	147	34x4-34x4d	5,300	45, 80	293
293a	I, Russel	Y		2, R			P	½, ½			40x2½-54x3				W	144	34x4-34x3½d			293a

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Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carburetor.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	5,000 Pounds:																			
294	Acason, H	3,500	Waukesha, CU	4	4¼x5½-30.6	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Detlaff, H5	I, 4	Cotta, R	Y	Blood	294
295	Ace, A	3,450	Buda, HU	4	4¼x5½-28.9	FS	Pierce	P	T, Modine	Y	Schebler	G	B, West'gh'se	Y	M. M & E	I, 4	Cotta	N	M & E	295
295a	Aetna	3,375	Wisc., UAU	4	4¼x6-28.9	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, R	N	Spicer	295a
295b	All-American	2,395	Herschell-Spill'n	4	3¾x5 -19.6	FS		T			Stromberg		M, Simms		M	I, 4	Cotta			295b
295c	American	3,575	Wisconsin	4	4x6-25.6	F	Pierce	P	T, G & O		Stromberg	G	M, Eisemann		M, Detroit	S, 3	Covert		Acme	295c
296	Apex, E	2,695	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	C, G & O	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	296
297	Armleder, HW		Continental, C4	4	4¼x5½-27.2	FS		P	T, Long	N	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown- L, U50	N	Spicer	297
298	Atterbury, 7CX	3,375	Continental, C4	4	4¼x5½-27.2	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	298
299	Available, H2½	3,475	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Ther.-Sp.	299
300	Beck, D	3,500	Continental	4	4¼x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	300
301	Bell	2,750	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit	Y	Universal	301
302	Bessemer, J2	3,285	Continental, C2	4	4¼x5½-27.2	S	Pierce	P	C, Standard	Y	Rayfield	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 50	N	Arvac	302
303	Betz, D2	2,785	Buda, HU	4	4¼x5½-28.9	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4		N	Peters	303
304	Bridgeport, 2½B	2,850	Buda, HTU	4	4¼x5½-28.9	FS	Pierce	P	Own		Stromberg	G	M, Eisemann		P, Borg & B	S, 4			Hartford	304
305	Brockway, K4	3,200	Continental, C2	4	4¼x5½-27.2	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	305
305a	Capital, H2½	3,450	Wisc., UAU	4	4¼x6-28.9	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Detlaff	I, 4	Cotta	N	Thermoid	305a
306	Chicago, C2½	3,250	Hercules, CU3	4	4x5½-25.6	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Peters	306
307	Clydesdale, 65C	3,775	Own	4	4¼x5½-29.0	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	307
307a	Clydesdale, 65EC		Own	4	4¼x5½-32.4	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	307a
308	Columbia, G	2,850	Hinkley, 400	4	4x5½-25.6	F	Hinkley	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, RA3	N	Spicer	308
309	Concord, B	2,850	Buda	4	4¼x5½-28.9		Monarch	P	T, Bush		Zenith		M, Eisemann		M, Brown-L	S, 3	Brown-Lipe		Spicer	309
309a	Corbitt, B	3,650	Continental	4	4¼x5½-27.2	FS	Simplex	P	T, Long		Stromberg	G	M, Eisemann		M, Brown-L	S, 4	Brown-L		Hartford	309a
310	Dart, M	3,000	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Spicer	310
311	Day-Elder, C	3,150	Buda, TU	4	4¼x5½-28.9	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, RU3C	N	Hartford	311
312	DeKalb, E2½	2,600	Continental	4	4¼x5½-27.2		N	P	T, Jackson		Master		M, Eisemann	N	M, Fuller	S, 3	Fuller		Hartford	312
314	Dependable, E	2,950	Buda, HTU	4	4¼x5½-28.9	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 4	Fuller, G5	N	Acme	314
315	Doane	3,750		4	4¼x5½-28.9	FS		P					M, Bosch		M	S, 3	Brown-Lipe			315
316	Erie		Continental	4	4¼x5½-27.2		Pierce	P	T		Stromberg		M, Bosch		M	S, 4				316
317	Fageol	3,900	Waukesha, RU4R	4	4¼x5½-28.9	S	Waukesha	P	C, Modine	N	Zenith	D G	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	317
318	Gary, J	3,150	Buda, HTU	4	4¼x5½-28.9	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	318
319	Gersix, G	3,150	Buda, LSU	4	4¼x5½-28.9	F	Simplex	P	T, Chicago		Stromberg		M, Bosch		P, Borg & B	I, 3	Cotta, BUA			319
320	Gersix, K	3,150	Buda, HU	4	3¾x5½-19.6	S	Monarch	P	C, Ideal		Stromberg		M, Bosch		P, Borg & B	I, 3	Cotta, BUA			320
321	Gramm-Bernstein, 25	3,875	Hinkley	4	4¼x5½-28.9	F	Hinkley	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	321
323	Hahn, E	2,500	Continental, E4	4	4¼x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			323
324	Hal-Fur, B	2,750	Buda	4	4¼x5½-28.9		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	324
325	Harvey, WFA	3,300	Buda	4	4¼x5½-28.9		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	325
326	Hendrickson, I	3,300	Buda, HU	4	4¼x5½-28.9	F	McCanna				Stromberg	G	M, Dixie		M	S, 4	Fuller		Thermoid	326
326a	H. R. L., H	3,650	Hinkley, HAA	4	4x5½-25.6	F	Hinkley	P	T, Fedders		Zenith	G	M, Bosch		M, Brown-L	S, 4	Brown-L		Spicer	326a
327	Hurlburt	3,750	Buda	4	4¼x5½-28.9	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35			327
328	Indiana, 25	3,350	Own	4	4¼x5½-27.2	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Acme	328
329	Jumbo, 25	3,450	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	329
330	Kalamazoo, H		Wisconsin, TAU	4	4x6-25.6	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	330
331	Kankakee, E	3,175	Continental N9	6	3¾x5½-25.3	FS		P	C, Auto	N	Zenith	G	B	Y	M, Muncie	S, 3	M'e AS-5-T23N	N	Acme	331
331a	Karavan		Buda, XTU	4	4¼x6-28.9	F	Duplex	P	T, Fedders		Zenith	G	M, Berling		M, Brown-L	S, 4	Brown-L		Spicer	331a
332	Kelly-Sp'gf'ld, K35(ch'n)	3,500	Own	4	3¾x5½-22.5	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, O	N	Own	332
333	Kelly-Sp'gf'ld, K36(w'm)	3,500	Own	4	3¾x5½-22.5	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, O	N	Spicer	333
334	Kimball, C	3,975	Wisconsin, UU	4	4¼x6-28.9	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	334
335	Kissel, Freighter	3,475	Own	4	4¼x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	335
336	Kleiber, B	4,200	Continental, E4	4	4¼x5½-32.4	S	Pierce	P	T, R'e-T'n'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	336
337	Koehler, M	3,365	Hercules, CU3	4	4x5½-25.6	F	Simplex	P	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	337
338	K-Z	2,950	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	338
339	Larrabee, SK		Continental, C4	4	4¼x5½-27.2	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	339
340	L.M.C, 2-20	2,540	Continental, C2	4	4¼x5½-27.2	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Borg & B	S, 4	Detroit, H	N	Baker	340
341	Maccar, H	3,750	Continental, E4	4	4¼x5½-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Spicer	341
342	Mapleleaf, BB		Hinkley, HA500	4	4¼x5½-28.9	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	342
342a	Master, D, (int.)	3,540	Buda, HU	4	4¼x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342a
342b	Master, W, (worm)	3,290	Buda, HU	4	4¼x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342b
343	Midland, S	3,150	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-L, 50			343
344	Moreland, 19C	3,900	Continental	4	4¼x5½-32.4	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	344
344a	Nelson & LeMoon, F2½		Continental	4	4¼x5½-27.2		Pierce	P	T, Chicago		Stromberg		M, Bosch	N	M, Brown-L	S, 3	Brown-Lipe		Thermoid	344a
345	Netco, H	3,800	Continental, E4	4	4¼x5½-32.4	S	N	P	T, R'e-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	345
346	Noble, D50		Buda	4	4¼x5½-28.9		Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 4	Fuller		M & E	346
347	Ogden, C2	2,995	Continental, C2	4	3¾x5-22.5	S	Pierce	T	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30		Acme	347
347a	O. K., L	3,450	Buda, HTU	4	4¼x5½-28.9	FS	Pierce	P	T, R'me-T'n'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, GU5		Hartford	347a
348	Old Reliable, B	3,250	Wisconsin, UU	4	4¼x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	348
348a	Oneida, C9	3,390	Hinkl'y, HAA400	4	4x5½-25.6	F	Own	P	C, Modine	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G5	N	Peters	348a
348b	Orleans	3,150		4	4¼x5½-27.2			P	T	N	Master	G	M, Eisemann	N	M	I, 4	Cotta			348b
349	Paige, 54-20	3,535	Hinkley, HA500	4	4¼x5½-28.9	F	Simplex	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	349
350	Patriot, Washington	3,845	Hinkley, HA	4	4¼x5½-32.4	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Covert, RA4	N	Thermoid	350
350a	Pittsburgh		Continental, C4	4	4¼x5½-27.2	F	Monarch	P	T, G & O		Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L		Spicer	350a
351	Reliance, B20	3,200	Buda, HTU	4	4¼x5½-28.9	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	I, 4	Cotta, R	N	Peters	351
352	Republic, 19	2,795	Continental, C2	4	4¼x5½-27.2	FS	Pharo	P	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 4	Fuller, GU5	N	Spicer	352
353	Reynolds, 5A	3,800	Hinkley	4	4¼x5½-28.9	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	353
354	Rowe, CDW	3,575	Wisconsin	4	4x5-25.6	F	Simplex	P	Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	354
355	Royal	3,500	Wisconsin	4	4x6-28.9		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			355
356	Sandow, J	3,375	Continental, C4	4	4¼x5½-27.2	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	356
357	Sanford, W25	3,350	Cont'nental, C4	4	4¼x5½-27.2	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35	N	Spicer	357
358	Schacht		Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 4	Own	N	M & E	358
359	Schwartz, C2	2,675	Continental, K4	4	4¼x3½-27.2	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50	N	M & E	359
360	Selden, 2½A	3,550	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	360
361	Service, 51	3,475	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	361
361a	Signal, J	3,275	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	361a
361b	Standard, 76		Continental, C2	4	4¼x5½-27.2	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	361b
362	Sterling		Own	4	4¼x5½-30.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	362
362a	Success, B	2,850	Continental, C4	4	4¼x5½-27.2	F	Monarch	P	C		Zenith	G	M, Eisemann		M, Fuller	S, 4	Fuller, GU5		Uni. Prod.	362a
363	Super, 50		Wisconsin, TAU	4	4x6-25.6	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Thermoid	363
364	Tiffin, MW	3,200	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Peters	364

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TRUCK SPECIFICATIONS

5,000 (Acason—Tiffin)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
294	W, Timken, 6560..	Y	W	2, R	13, 10	E, E	P, Savage....	½, ½	Detroit....	10, 14	42x2½-56x3½...	L	Ross.....	.....	I, Smith....	150	36x4-36x8.....	4,850	—, 76	294
295	W, Timken, 6560..	Y	W	2, R	11¼, 9¾	E, E	P, Parish & B..	½, ½	Mather....	10, 12	39x2½-54x3....	L	Ross.....	60, 0	S, Davton..	156	36x6p-40x8p.....	5,650	25, 60	295
295a	W, Sheldon, W21.	N	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	12, 14	40x2½-52x3....	L	Ross.....	.....	W.....	150	36x4-36x4d	.....	50, 70	295a
295b	I, Torbensen	....	W, Powrlok.	2, R	.....	.....	P.....	½, ½	.....	10, 12	40x2½-54x3....	.....	.....	.....	W.....	130	34x4-34x6.....	.....	.....	295b
295c	W, Wisconsin.....	....	.....	2, R	.....	.....	.....	½, ½	Perfection..	.....	.....	.....	Lavine....	.....	I,Smith...	158	36x4-34x4d.....	5,000	.....	295c
296	I, Torbensen.....	Y	B	2, R	11, 13½	C, E	R.....	½, ½	Detroit....	10, 13	39½x2½-52½x3..	L	Lavine....	.....	W, Bimel...	150	36x4-36x6.....	4,510	—, 66	296
297	W, Timken, 1540B	N	W	2, R	10, 10	E, E	P.....	½, ½	Mather....	7, 9	42x2½-60x3....	L	Ross.....	52, 0	W,St.M'rys.	148	36x4-36x4.....	4,600	60, 80	297
298	W, Timken, 6560..	Y	B	2, R	15, 9½	E, E	P.....	½, ½	Spring Perch	9, 12	41½x2½-54x3...	R	Gemmer..	55, 9	W, Arch'b'ld	153½	36x4-36x4d.....	5,070	.....	298
299	W, Wisc., 900C...	N	W	2, R	11, 10	E, C	R, Own.....	½, ½	Tuthill....	9, 14	40x2½-52x3....	L	Ross.....	44, 0	W, Schwarz.	152	36x4-36x8.....	5,000	55, 75	299
300	W, Timken.....	N	W	2, R	14, 12	C, E	P.....	½, ½	Higgins....	9, 15	40x2½-52x3½...	L	Lavine..	48, 0	W, Bimel...	144	36x5-36x8.....	4,200	30, 75	300
301	I, Russel.....	Y	B	2, R	11,14	C, E	R, Own.....	½, ½	Detroit	9, 14	42x2½-56x3....	L	Gemmer..	52, 0	W, Bimel...	146	34x4-34x6.....	4,200	50, 70	301
302	I.....	N	B	2, R	9½, 12	C, E	P.....	½, ½	Perfection..	10, 12	41½x2½-56x3....	L	Ross.....	.....	W, Schwarz.	158	36x4-36x4d.....	4,625	50, 75	302
303	W, Timken, 6560..	Y	B	2, R	11, 9	E, E	P, Parish & B..	½, ½	Temme....	8, 14	40x2½-55x3....	L	Ross.....	35, 0	S, Dayton..	150	36x4-36x7.....	4.750	75, —	303
304	W.....	....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	.....	.....	.....	156	36x4-Opt.....	5,500	.....	304
305	W, Timken, 6560..	N	B	2, R	.....	E, E	P, Parish.....	½, ½	Merrill.....	10, 13	43x2½-51½x3...	L	Gemmer..	.....	W, Hoopes..	152	36x4-36x7.....	4,850	54, 84	305
305a	W, Wisc., 900C..	Y	B	2, R	11½, 9½	E, E	R.....	½, ½	SpringPerch	....	42x3-56x3½.....	L	Ross.....	54, 0	S, Detroit.	.....	36x4-36x8.....	5,100	55, 85	305a
306	W, Timken, 6560..	Y	B	2, R	12 ,9	E, E	R, Own.....	½, ½	Mather....	9, 13	40x2½-54x3....	L	Gemmer..	.....	W, Standard	156	36x4-36x7.....	4,610	60, 75	306
307	W, Timken, 6560..	N	B	2, R	11½, 9	E, E	P, Parish & B..	½, ½	Perfection..	7, 10	44x3-52x3.....	L	Ross.....	48, 0	I, Smith....	163	36x4-36x8.....	4,950	60, 80	307
307a	W, Timken, 6560..	N	B	2, R	11½, 9	E, E	P, Parish & B..	½, ½	Perfection..	7, 10	44x3-52x3.....	L	Ross.....	48, 0	I, Smith....	163	36x4-36x8.....	4,950	60, 80	307a
308	I, Russel, NI-400..	Y	B	2, R	.....	C, E	R.....	½, ½	Perfection..	9, 11	40x2½-52x3½...	L	Own.....	.....	W,St.M'rys.	144	36x4-36x7.....	5,100	.....	308
309	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish & B..	.....	Spring Perch	.....	.....	L	Ross.....	.....	W, Crane..	150	36x4-36x4d.....	.....	.....	309
309a	W, Sheldon.....	....	.....	2, R	.....	.....	.....	½, ½	Sheldon....	.....	.....	.....	Ross.....	.....	W, Bimel...	152	36x4-36x7.....	5,325	.....	309a
310	W, Own.....	Y	B	2, R	10¼, 10½	E, E	P, Savage.....	½, ½	Perfection..	8, 11	39x2½-56x3....	L	Ross.....	50,0	W, Prudden.	150	36x4-36x7.....	4.750	50, 80	310
311	W, Sheldon, W21.	Y	B	2, R	12¼, 9¾	E, E	P, Savage.....	½, ½	Iron City...	9, 14	42x2½-56x3 ...	L	Gemmer..	54, 0	W, Jones..	150	36x4-36x7.....	5,000	50, 70	311
312	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish.....	.....	Mather.....	.....	.....	.....	L	Ross.....	W, Schwarz.	136	36x4-36x6.....	.....	.....	312
314	W, Wisc., 900C...	Y	W	2, R	10, 10	E, C	P.....	½, ½	Perfection..	11, 14	42x2½-52x3....	L	Ross.....	36, 0	W, Bimel...	157	36x4-36x7.....	5,600	40, 70	314
315	C.....	....	.....	2, R	.....	E, E	P.....	½, ½	.....	.....	.....	.....	.....	.....	W.....	156	36x5-36x7.....	.....	.....	315
316	W, Timken.....	....	.....	.....	.....	.....	P.....	.....	.....	.....	.....	.....	Ross.....	.....	.....	160	34x4-36x5.....	.....	.....	316
317	W, Timken, 6560..	Y	B	2, R	9½, 10	E, C	R, Own.....	½, ½	Mather....	9, 13	41x2½-56x3....	L	Ross.....	56, 1	W, Prudden.	144	34x4-36x7.....	4,600	50, 71	317
318	W, Timken, 6560..	Y	W	2, R	12, 10½	E, E	P.....	½, ½	Tuthill....	11, 13	44x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	148	36x4-36x7.....	4,850	50, 20	318
319	W, Own.....	....	.....	2, R	.....	C, E	R, Own.....	½, ½	Tuthill....	.....	.....	.....	Ross.....	.....	W, Jones..	150	36x4-36x7.....	.....	.....	319
320	W, Own.....	....	.....	2, R	.....	C, E	R, Own.....	½, ½	Tuthill....	.....	.....	.....	Ross.....	.....	W, Jones..	150	36x4-36x7.....	.....	.....	320
321	W, Standard.....	Y	B	2, R	.....	E, E	P, Own.....	½, ½	Perfection..	.....	46x2½-58x3....	L	Ross.....	59, 6	I, Smith....	150	36x4-36x4d.....	6,800	73¾, 91	321
323	W, Timken.....	....	.....	2, R	.....	.....	P.....	.....	Delaney....	.....	.....	.....	Ross.....	.....	W.....	156	36x4-36x4d.....	.....	.....	323
324	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish & B..	.....	Spring Perch	.....	.....	L	Gemmer..	.....	S, Massillon.	168	35x5-36x7.....	.....	.....	324
325	W, Sheldon.....	....	.....	2, R	.....	E, E	R, Own.....	.....	Sheldon....	.....	.....	L	Ross.....	.....	W, Schwarz.	150	36x4-36x7.....	.....	.....	325
326	W, Timken.....	....	.....	2, R	.....	.....	.....	½, ½	Tuthill....	.....	.....	.....	Ross.....	.....	W,Standard	.....	36x4-36x7.....	.....	.....	326
326a	W, Sheldon.....	....	.....	2, R	.....	.....	.....	½, ½	Sheldon....	.....	.....	.....	Ross.....	.....	W, Schwarz	154	36x4-36x4d.....	5,310	.....	326a
327	W, Hindley.....	....	.....	2, R	.....	E, C	P, Savage.....	½, ½	Perfection..	.....	.....	.....	Ross.....	.....	W, Wayne..	170	36x4-36x4d.....	.....	.....	327
328	W, Sheldon, W21..	N	B	2, R	12¼, 9¾	E, E	R.....	½, ½	Sheldon....	9, 14	40x2½-50x3....	L	Wohlrab..	50, 0	W, Bimel...	156	36x4-36x8.....	6,000	61, 71½	328
329	I, Clark, 2D.....	Y	B	2, R	10, 11½	C, E	P.....	½, ½	Detroit....	9, 14	40x2½-54x3....	L	Jacox....	45, 0	S, Clark....	152½	36x4-36x7.....	4,800	50, 75	329
330	W, Sheldon, W21..	N	W	2, R	9½, 9	E, E	R.....	½, ½	Sheldon....	8, 13	42x2½-56x3....	L	Ross.....	34, 3	I, Smith....	160	36x4-36x8.....	6,200	—, 80	330
331	I, Russel, S.....	Y	B	2, R	9, 13¼	C, E	R, Own.....	½, ½	Temme....	9, 11	39½x2¼-49½x3..	L	Ross.....	.....	W, Bimel...	170	34x4-34x6.....	4,200	30, 70	331
331a	W, Sheldon.....	....	.....	2, R	.....	.....	.....	½, ½	Sheldon....	.....	.....	.....	Ross.....	.....	I, Smith....	148	36x4-36x8.....	5,700	.....	331a
332	C, Own.....	N	B	2, R	9½, 16	E, E	P.....	½, ½	Perfection..	11, 13	40x2½-44x2½...	L	Gemmer..	48, 0	W.....	144	36x4-36x4d.....	5,200	50, 90	332
333	W, Own.....	N	B	2, R	9⅜, 9¾	E, E	P.....	½, ½	Perfection..	11, 12	40x2½-47⅞x3...	L	Gemmer..	48, 0	W.....	144	36x4-36x4d.....	5,540	50, 90	333
334	W, Sheldon, W21..	Y	B	2, R	.....	E, C	P, Parish.....	½, ½	U. S.....	11, 13	40⅞x2½-50½x3...	L	Ross.....	39, 6	I, Smith....	.....	36x6p-36x8.....	.....	50, 80	334
335	W, Sheldon, W21..	Y	W	2, R	10¾, 10	E, E	P, Smith.....	½, ½	Mather....	10, 11	38x2½-54x3....	L	Lavine..	50, 0	W Prudden.	168	36x4-36x7.....	5,200	57½, 76	335
336	W, Sheldon, W21..	Y	W	2, R	9½, 9½	E, E	R, Own.....	½, ½	Betts.....	8, 14	44x3-52x3.....	R	Ross.....	.....	W,Wat'rh'se	160	36x4-36x8.....	5,900	50, 75	336
337	W, Timken, 6560..	Y	B	2, R	12, 9½	E, E	P, Parish & B..	½, ½	Mather....	10, 12	40x2½-56x3....	L	Lavine....	.....	W, Wayne..	162	36x4-36x7.....	5,000	50, 75	337
338	W, Timken, 6560..	N	B	2, R	12½, 10½	E, E	R, Own.....	½, ½	Tuthill....	8, 10	40x2½-50x3....	L	Ross.....	64, 8	W,St.M'rys.	150	36x4-36x8.....	4,800	.....	338
339	W, Sheldon, W21..	Y	B	2, R	15, 10	E, E	P, Parish & B..	½, ½	Merrill.....	9, 13	41x2½-54x3....	L	Ross.....	.....	W, Hoopes..	156	36x4-36x7.....	5,200	42, 86	339
340	I, Russel, S.....	Y	B	2, R	10½, 14½	C, E	R, Chopper....	½, ½	Mather....	9, 11	42x2½-56x3....	L	Lavine....	47, 0	W, Bimel...	164	36x4-36x4d.....	4,500	53, 75	340
341	W, Timken, 6560..	N	B	2, R	12½, 10	E, E	P, Parish.....	½, ½	Merrill.....	8, 12	42x2½-56x3....	L	Ross.....	.....	S, Dayton..	162	36x4-36x4d.....	5,000	—, 70	341
342	W, Sheldon, W21..	Y	B	2, R	11⅞, 9¾	E, E	R, Own.....	½, ½	Sheldon....	.....	44x2½-54x3.....	L	Ross.....	.....	W, Hayes..	150	36x4-36x4d.....	5,500	50, 70	342
342a	I, Walker.....	Y	BS	2, R	.....	C, E	P, Parish & B..	½, ½	Detroit....	11, 13	44½x2½-52x3....	L	Ross.....	42, 0	W, Prudden	144	34x4-36x7.....	4,300	53, 76	342a
342b	W, Timken, 6560..	Y	B	2, R	9¾, 10½	E, E	P, Parish & B..	½, ½	Detroit....	11, 13	44½x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	144	34x4-36x7.....	4,500	53, 76	342b
343	W, Sheldon, W21..	....	.....	.....	.....	E, E	P, Parish & B..	½, ½	Sheldon....	.....	.....	.....	Ross.....	.....	I, Smith....	150	36x4-36x7.....	.....	.....	343
344	W, Timken, 6552..	N	W	2, R	12, 10	E, E	P.....	½, ½	U. S.....	10, 11	39¾x2½-50x3½...	L	Ross.....	50, 0	I, Smith....	144	36x4-36x7.....	5,400	50, 65	344
344a	W, Timken, 6560 .	Y	.....	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	.....	.....	R	Lavine....	.....	W, Prudden.	.....	36x4-36x7.....	.....	.....	344a
345	W, Timken, 6560..	Y	B	2, R	12, 11	E, E	P.....	½, ½	Perfection..	10, 15	39x2½-49½x3...	L	Ross.....	.....	W, Arch'b'ld	168	36x4-36x8.....	5,120	57, 65	345
346	W, Sheldon.....	....	.....	2, R	.....	E, E	P, Slick-Knox.	.....	SpringPerch	.....	.....	.....	Lavine....	.....	W. Bimel..	150	36x4-36x8.....	5,700	.....	346
347	W, Timken.....	Y	B	2, R	10, 10	E, E	P, Garden City.	C, C	Tuthill.....	8, 10	38x2¼-50x2½...	L	Gemmer..	.....	W, Standard	160	36x3½-36x4.....	3,400	—, 70	347
347a	W, Wisc., 900.....	....	.....	2, R	.....	E, E	P, Savage.....	½, ½	Liggett....	.....	.....	.....	Ross.....	.....	W, Bimel...	150	336x4-36x8.....	.....	.....	347a
348	W, Sheldon, W21..	Y	W	2, R	10⅜, 9¾	E, E	R.....	½, ½	Sheldon....	9, 14	46x3-54x3.....	R	Ross.....	.....	W,St.M'rys.	160	34x4-36x4d.....	5,750	—, 70	348
348a	W, Wisc., 900C..	N	B	2, R	10½, 9	E, E	P. Detroit.....	½, ½	Mather....	9, 13	40x2½-56x3	L	.....	.....	W	160	36x3-36x7.....	5,200	60, 85	348a
348b	W.....	N	.....	2, R	.....	E, E	R.....	½, ½	.....	.....	42x2½-54x3	L	Ross.....	.....	I, Smith...	160	36x4-36x7.....	.....	.....	348b
349	W, Timken.....	N	B	2, R	.....	E, E	P.....	½, ½	Perfection..	11, 11	45x2½-54x3....	L	Ross.....	.....	S, Dayton..	150	34x4-34x8.....	5,200	60, 75	349
350	W, Empire, O....	Y	B	2, R	10, 10½	E, E	P, Detroit.....	½, ½	Cooper....	10, 15	44x2½-56x3.....	.....	Ross.....	51, 10	W, Bimel...	156	36x4-36x7.....	5,200	49, 82	350
350a	W, Sheldon.....	....	.....	2, R	.....	.....	.....	½, ½	Iron City...	.....	.....	.....	Ross.....	.....	I, Smith....	160	36x5-36x7.....	5,500	.....	350a
351	E, Badger.....	Y	W, Powrlok..	2, R	10, 10½	E, E	P, Savage.....	½, ½	Sheldon....	9, 11	46x2½-58x2½...	L	Ross.....	.....	W, Bimel...	156	36x4-36x4d.....	5,500	40, 85	351
352	I, Torbensen, C2..	Y	W, Powrlok..	2, R	.....	E, E	P, Detroit.....	½, ½	Mather....	9, 13	38½x2½-52½x3..	L	Jacox.....	.....	W.....	144	36x4-36x7.....	4,200	.....	352
353	W, Sheldon.....	Y	B	2, R	11, 9½	E, E	R, Standard...	½, ½	Perfection..	.....	40x2½-54x3.....	L	Lavine....	.....	I, Smith....	154	36x4-36x8.....	.....	.....	353
354	W, Sheldon, W21..	....	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	.....	.....	L	Ross.....	.....	W, Hoopes..	162	34x4-36x4d.....	4,500	—, 64	354
355	W, Timken	....	.....	2, R	.....	E, E	R, Own.....	.....	Merrill.....	.....	.....	.....	Ross.....	.....	W.....	132½	36x4½-36x6.....	.....	.....	355
356	W, Timken, 6560..	Y	W	2, R	9½, 9½	E, E	P, Savage.....	¾, ¾	Garden City	8, 13	38½x2½-54x3....	R	Ross.....	36, 0	W, Standard	165	36x4-36x7.....	4,650	20, 70	356
357	W, Sheldon, W21..	Y	W	2, R	11, 9½	E, E	P, Parish & B..	½, ½	Perfection..	9, 13	42x2½-52x3....	L	Ross.....	58, 0	W Hoopes..	174	36x4-36x4d.....	5,330	73, 87	357
358	W, Own.....	N	B	2, R	11, 9	C, E	R, Own.....	½, ½	National....	9, 14	35x2½-50x3....	L	Own.....	.....	W,St.M'rys.	156	36x4-36x4d.....	6,000	—, 70	358
359	I, Torbensen, D..	Y	B	2, R	10, 11½	C, E	P, Parish.....	½, ½	Rowland...	10, 15	40½x2½-54x3....	L	Ross.....	.....	W, Schwarz.	150	34x4-34x7.....	4,200	.....	359
360	W, Timken, 6560..	N	B	2, R	12, 10½	E, E	P, Parish & B..	½, ½	Perfection..	9, 14	40x2½-54x3....	R	Gemmer..	54, 0	S.....	145	36x4-36x7.....	5,400	52, 75	360
361	W, Timken, 6560..	Y	B	2, R	12, 9½	E, E	P.....	½, ½	Mather....	10, 14	42x2½-54x3....	L	Ross.....	48, 0	W, Bimel...	160	36x4-36x7.....	5,180	—, 70	361
361a	W, Timken, 6560..	N	B	2, R	11, 11	E, E	P, Savage.....	½, ½	Detroit....	10, 13	44x2½-56x3....	L	Ross.....	60, 0	W, Hayes...	150	34x4-36x8.....	5,210	—, 76	361a
361b	W, Timken, 6560..	N	B	2, R	12, 9½	E, E	R, Own.....	½, ½	.....	8, 12	38x2½-54x3....	L	Ross.....	.....	W.....	140	36x4-36x7.....	4,430	59, 71	361b
362	W, Timken, 6560..	N	B	2, R	12¼, 10	E, E	P.....	½c½c	Mather....	8, 12	48x3-54x3.....	L	Ross.....	52, 9	W, Prudden	156	36x4-36x4d.....	5,500	58, 88	362
362a	W, Sheldon.....	....	.....	2, R	.....	.....	.....	½, ½	Sheldon....	.....	.....	.....	Lavine....	.....	.....	144	34x4-36x7.....	4,700	.....	362a
363	W, Sheldon, W21..	N	B	2, R	11½, 9½	E, E	P.....	½, ½	Sheldon....	10, 12	40x2½-50x3....	L	Lavine....	49, 0	W.....	156	36x4-36x8.....	5,250	.....	363
364	W, Sheldon, W21..	Y	B	2, R	10, 11	E, E	P.....	½, ½	Kalamazoo	11, 14	44x2½-50x3....	L	Ross.....	52, 0	I, Smith....	148	36x4-36x3½d.....	4,890	40, 60	364

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5,000 (Titan)—7,000 (Larrabee) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	5,000 Pounds—Con.																			
365	Titan	3,400	Buda, HTU	4	4½x5½-28.9	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, AU	N	M & E	365
366	Tower, H	3,475	Continental, C4	4	4½x5½-27.2	S	Pierce	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N		366
366a	Transport, 50	2,785	Buda, TU	4	4½x5½-28.9	F	Duplex	P	C	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	Hartford	366a
367	Traylor, D	3,375	Buda, MTU	4	4½x5½-28.9	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 4	Covert	N		367
368	Triangle, B	3,150	Waukesha, FU	4	4x5½-25.6	FS	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Detroit	368
369	Ultimate, B	3,750	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	369
370	Union, F	3,150	Wisconsin, TAU	4	4x6-25.6	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	370
371	United, B	3,150	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			371
372	Vulcan, 25	3,750	Wisc., UAU	4	4½x6-28.9	F	Pierce	P	T	Y	Zenith	G	M, Eisemann	N	M, Brown-L,50	S, 4	Brown-L, 50	N	Soicer	372
373	Walker-Johnson, B	3,500	Buda, HU	4	4½x5½-28.9	F	Pierce	P	T		Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L	N	Spicer	373
374	Ward LaFrance, 2B	3,590		4	4½x5½-30.6	F		P	T, Own	Y	Zenith	G	M, Berling	N	M, Brown-L	S, 4	Brown-L, 50	N	M & E	374
375	Watson, 19		Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	T, R'e-T'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	375
375a	White Hickory, K	3,350	Continental, C2	4	4½x5½-27.2	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	M & E	375a
376	Wichita, R	3,000	Waukesha, BX	4	3½x5-22.5	P	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	376
376a	Wichita, RX	3,600	Beaver, JB	4	4½x6-28.9	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	I, 4	Cotta	N	Thermoid	376a
377	Wilcox, C		Own	4	4½x5-28 9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		377
378	Wilson	3,150	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Thermoid	378
379	Winther, 450	3,690	Wisconsin, EAU	4	4x5-25.6	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU5	N	Peters	379
380	Wisconsin, C	2,850	Waukesha	4	4x5½-25.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			380
381	Witt-Will, P	2,950	Continental	4	4½x5½-27.2		Pierce	P	C, Modine		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	381
	6,000 Pounds:																			
381a	Ace	3,650	Buda, HU	4	4½x5½-28.9	FS	Pierce	P	C, Modine	Y	Schebler	G	M, Eisemann	N	M, M & E	I, 4	Cotta	N	M & E	381a
382	A & B, 3T	4,500	Own	4	5½x4½-42.8		N	P	T, Bush		Schebler		M, Bosch	N	N	* 2	*		Franck	382
383	Beck, D	3,500	Continental	4	4½x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	383
384	Beech Creek, 3A	3,850	Waukesha	4	4½x5½-28.9		Waukesha	P			Master		M, Eisemann		M, Fuller	S, 3	Fuller			384
384a	Bethlehem, H	2,795	Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, GU	N	Universal	384a
384b	Denby, 25	3,600	Continental, C2	4	4½x5½-27.2	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	384b
384c	Douglas, I	3,500	Buda	4	4½x5½-28.9		Pierce	P	T, Own		Schebler		M, Eisemann		M, Fuller	S, 4	Fuller		Arvac	384c
385	Forschler, BX	3,450	Continental	4	4½x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 4	Fuller		Own	385
386	FWD, B	4,900	Wisconsin, A	4	4½x5½-36.1	FS	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Hele-Shaw	I, 3	Cotta, DAF	N	Blood	386
387	Jumbo, 30	3,950	Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	387
388	Kimball, K	4,400	Wisconsin, AU	4	4½x5½-36.1	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	388
389	MacDonald, A	5,750	Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own		Stromberg	G	M, Splitdorf		M, Brown-L	S, 4	Brown-L		Own	389
390	Packard, D	4,900	Own	4	4¼x5½-28.0	F	Own	P	C, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther.-Sp.	390
391	Riker, B	4,600	Own	4	4½x6-28.9	S	Own	P	T	N	Own	G	M, Berling	N	C, Own	S, 4	Own	N	Own	391
392	Rowe, GSW (4-cyl.)	4,150	Wisconsin	4	4x6-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	392
393	Rowe, GPW (8-cyl.)	5,250	Pittsburgh	8	3½x5-35.2	F	N	P	C, Fedders		Zenith	G	Atwater-K	Y	M, Brown-L	S, 4	Brown-Lipe	Y	Spicer	393
393a	Stoughton, F	3,600	Hercules, MU2	4	4½x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Thermoid	393a
393b	U. S., R		Hink'y HAA400	4	4x5½-25.6	F	Hinkley	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Blood	393b
394	Vim, 23	3,950	Hercules	4	4½x5½-28.9	F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	394
395	Walter (N. Y.), T		Waukesha, CU	4	4½x5½-30.6	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Brown-L, 50		M & E	395
396	White, 40	4,500	Own	4	3½x5½-22.5	F	Own	P	T, Own	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	396
	7,000 Pounds:																			
397	Acason, L	4,500	Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Detlaff, H5	I, 4	Cotta, R	Y	Blood	397
398	Acme, C	4,050	Continental, E7	4	4½x5½-32.4	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	N	Blood	398
398a	Aetna	4,375	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, S	N	Spicer	398a
399	All-Power, 8V4	5,800	Continental	4	4½x5½-32.4		Pharo	P	T, McCord		Zenith		M, Eisemann	Y	M, Detlaff	I, 3	Cotta		Universal	399
400	Armleder, KW		Continental, E4	4	4½x5½-32.4	FS		P	T	N	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, U50	N	Spicer	400
401	Atterbury, 7D	4,175	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	401
402	Available, H3½	4,475	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Ther.-Sp.	402
403	Belmont, D	3,550	Buda, YU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, G	N	Sterling	403
404	Brockway, R2	4,100	Continental, E4	4	4½x5½-32.4	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	404
405	Capital, M3½	4,150	Wisc., UAU	4	4½x6-28.9	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Detlaff	I, 4	Cotta	N	Thermoid	405
406	Chicago, C34	4,450	Hercules, MU3	4	4½x5½-32.4	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Peters	406
407	Clydesdale, 90C	4,400	Own	4	4½x5½-32.4	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	407
408	Dart, W	4,000	Buda, YU	4	4½x6-32.4	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, HU	Y	Spicer	408
409	Day-Elder, F	3,950	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 50	N	Hartford	409
411	Diamond T, K	4,825	Dia. T. Design	4	4½x5½-28.9	FS	Unit Mot	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 4	Covert	N	Spicer	411
412	Dorris, K7	4,400	Own	4	4½x5½-28.9	F	Own	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Warner	S, 4	Warner, T53	N	Spicer	412
413	Duplex, E	4,250	Buda, TU	4	4½x5½-28.9	S	Duplex	P	T, Long	N	Schebler	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Peters	413
414	Erie		Continental	4	4½x5½-32.4		Pierce		T		Stromberg		M, Bosch			S, 4				414
415	Fageol	5,000	Waukesha, DU	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	415
416	Federal, WE	4,100	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner	N	Spicer	416
417	Garford, 77C	4,300		4	4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		417
418	Garford, 77D	4,190		4	4½x6-32.4	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		418
419	Gary, KL	4,150	Buda, YTU	4	4½x6-32.4	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	419
419a	Gersix, L	4,500	Buda, YTU	4	4½x6-32.4	F	Monarch	P	C, Ideal	N	Stromberg	G	M, Bosch	N	P, Borg & B	I, 4	Cotta, S	N	Blood	419a
420	Giant, 17	4,150	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	C, Own	Y	Stromberg	G,K	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N		420
421	GMC, 71A		Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	421
422	Gramm-Bernstein, 35	4,775	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	422
423	Hall	4,100	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	423
424	Harvey, WHA	4,300	Buda	4	4½x6-32.4		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	424
425	Hendrickson	3,800	Buda	4	4½x5½-28.9		Pierce	P	T, Chicago		Stromberg		M, Dixie	N	M, Fuller	S, 4	Fuller			425
426	Hurlburt, C	4,400	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50			426
427	Indiana, 35	4,150	Own	4	4½x5½-30.6	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	427
428	International, L	4,500	Own	4	4½x5-28.9	FS	Own	P	T, Long, McC	Y	Ensign	G	M, Dixie	N	M, Own	S, 4	Brown-L	N	Own	428
429	Jackson, C1920	4,250	Continental	4	4½x5½-32.4		Pierce	P	T, Long		Stromberg		M, Eisemann		P, Borg & B	S, 4	Own		Spicer	429
430	Jumbo, 35	4,550	Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	430
431	Kalamazoo, K		Wisconsin, UAU	4	4½x6-28.9	F	Pierce	P	C, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	431
432	Kelly-Sp'gf'ld, K40(ch'n)	4,400	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C	S, 3	Covert, K	N	Own	432
433	Kelly-Sp'gf'ld, K41 (int.)		Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	433
434	Kelly-Sp'gf'ld, K42(w'm)		Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	434
435	Kissel, Heavy Duty	4,475	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	435
436	Kleiber, C	4,900	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'rn'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	436
437	K-Z	4,200	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	437
438	Larrabee, SL		Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	438

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TRUCK SPECIFICATIONS

5,000 (Titan)—7,000 (Larrabee)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
365	I, Clark, 2D	N	B	2, R	11, 14	E, C	P, Parish & B.	½, ½	Sheldon	9, 11	46x2½-54x3	L	Wohlrab.	38, 0	W	156	34x4-36x4d	4,975	51, 78	365
366	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		44x2½-56x3	L	Ross		W, Prudden	146	36x4-36x7	5,230	—, 75	366
366a	I, Clark, 2D	Y	B	2, R	11½, 13	C, E	P, Detroit	½, ½	Detroit	9, 13	40x2½-54x3	L	Jacox		W	150	36x4-36x7	4,250	30, 70	366a
367	W, Sheldon, W21	Y	W	2, R		E, E	P, Savage	½, ½			40x2½-52x3	L	Ross		W, Schwarz	150	36x4x3-6x7	5,500		367
368	I, Clark, 2D	Y	W, Powrlok	2, R	13, 11	C, C	R	½, ½	Detroit	10, 12	42½x2½-54x3	L	Gemmer	56, 0	W, Royer	151	36x4-36x7	4,900	60, 80	368
369	W, Sheldon, W21	N	B	2, R	10, 9½	E, E	P	½, ½	Sheldon	10, 16	39x2½-52x3	L	Ross	49, 0	W	154	36x4-36x4d	5,340	50, 70	369
370	I, Russel, T	Y	B	2, R	13, 16	C, E	P, Own	½, ½	Mather	8, 14	44x2½-56x3	L	Ross		W, Prudden	152	36x5-36x8	5,100	50, 70	370
371	I, Clark, 2D			2, R		E, C	P, Detroit	½, ½	Detroit				Jacox		W	151	36x4-36x7			371
372	W, Sheldon	N		2, R		E, E	P	½, ½			45x2½-55x3	L	Ross		I, Smith	148	36x4-36x8			372
373	W, Timken	Y		2, R		E, E	P	½ ½	SpringPerch	8, 16			Ross		W	150	36x4-36x8	5,200	—, 70	373
374	W, Timken, 6560	N	W	2, R	12½, 9½	E, E	P, Detroit	½, ½			40x2½-54x3	L	Ross		W	158	36x4-36x4d	5,400	—, 85	374
375	W, Empire, O	Y	B	2, R	11, 10	E, E	P, Parish	½, ½	Sheldon		42x2½-54x3	L	Gemmer		W, Crane	156	36x4-36x7			375
375a	W, Timken, 6560	Y	W	2, R	12, 9½	E, E	P, Parish & B.	½, ½	Sheldon	8, 12	44x2½-56x3	L	Lavine	52, 0	W, Bimel	150	36x4-36x7	4,650	54, 78	375a
376	W, Sheldon	Y	W	2, R	11, 9½	E, E	P, Own	½, ½	Detroit		40x2½-56x3	R	Ross		S	144	36x4-36x7	4,500		376
376a	W, Sheldon	Y	W	2, R	11, 9½	E, E	P, Own	½, ½	Detroit		40x2½-56x3	R	Ross		S	160	36x4-36x8	5,600		376a
377	W, Wisc., 900C	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 12	40x2½-56x3	L	Own		I, Smith	150	36x4-36x3	5,000	25, 75	377
378	W, Timken, 6560	Y	B	2, R	12½, 9½	E, E	R, Own	½, ½	Perfection	11, 12	40x2½-52x3	L	Ross		W	152	36x4-36x7	4,600	60, 80	378
379	I, Clark, 2D	Y	B	4, FR	12½, 12	C, E	R, Own	½, ½	Mather	11, 15	40x2½-48x2½	L	Lavine	62, 0	I, Own	150	34x5-36x6	4,800	30, 60	379
380	W, Sheldon			2, R		E, E	P, Smith						Lavine		W	156	36x4-36x6			380
381	W, Timken			2, R		E, E	P, Parish		Delaney			L	Ross		W, Archibald	144	36x3½-36x7			381
381a	W, Sheldon, W1500	Y	W	2, R	11½, 9½	E, E	P, Parish & B.	½, ½	Mather	12, 15	39x2½-54x3	L	Ross	60, 0	S, Dayton	156	36x6-36x8	5,650	30, 60	381a
382	I, Own			2, F		C, E	R, Own		Spring Perch				Gemmer		W, Archibald	144	48x3½d-48x3½d			382
383	W, Timken	N	W	2, R	14, 12	C, E	P	½, ½	Higgins	9, 15	40x2½-52x3½	L	Lavine	48, 0	W, Bimel	144	36x5-36x8	4,200	30, 75	383
384	B, Own			2, R		C, C							Own			132	36x6-36x6			384
384a	I, Russel, RI300	Y	B	2, R	12½, 13½	C, E	P, Detroit	½, ½	Mather	9, 11	40x2½-56x3	L	Lavine	51, 0	I, Smith	143	36x4-36x8	5,000	—, 90	384a
384b	I, Russel, U	Y	B	2, R	12, 13	C, E	P, Detroit	½, ½	Detroit	10, 14	44x2½-52x3½	L	Ross	57, 1	I, Smith	149½	36x4-36x7	4,920	52, 79½	384b
384c	W, Wisconsin			2, R					Own				Ross			136	36x5-36x8	4,750		384c
385	W, Sheldon			2, R		E, E	R, Own	½, ½	Own			L	Ross		I, Smith	144	36x4-36x8			385
386	B, Own	Y	B	4, FR	9½, 9½	C, C	P, Parish & B.	½, ½P	Tuthill	10, 12	45½x2½-44x2½	R	Ross	51, 0	W, Schwarz	124	36x6-36x6	6,400	38, 55	386
387	I, Clark, 2D	Y	B	2, R	10, 13½	C, E	P	½, ½	Detroit	9, 14	40x2½-54x3	L	Jacox	45, 0	S, Clark	152½	36x6p-42x9p	5,000	50, 75	387
388	W, Sheldon, W21	Y	B	2, R		E, C	P	½, ½	U. S.	11, 13	40½x2½-50½x3	L	Ross	39, 6	I, Smith		36x4-36x10		50, 80	388
389	I, Own			2, R				½, ½	Own				Own		Opt		40x7-Opt	6,000		389
390	W, Own	N	S	2, R	10½, 9½	C, E	R, Own	½, ½		11, 12	42½x3-46x3	L	Own	56, 0	I	156	36x5-36x5d	7,000	52, 72	390
391	W, Own	N	B	2, R	12, 9	C, E	P	½, ½		9, 14	42x3-54x3	R	Ross	55, 0	S	150	36x5-36x5d	6,900	62, 75	391
392	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	158	34x5-36x5d	5,900	—, 62	392
393	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	170	38x7p-42x9p	5,550	—, 61	393
393a	W, Sheldon	N	W	2, R	11, 9½	E, E	P, Detroit	½, ½	Sheldon	9, 14	42x2½-54x3	L	Lavine	52, 0	W, Bimel	156½	36x5-36x5d	6,000	48, 67	393a
393b	W, Sheldon, W21	Y	B	2, R	12, 9½	E, E	P	½, ½	Sheldon	9, 12	42x2½-54x3	L	Lavine	50, 0	W, Schwarz	156	36x4-36x4d	5,500	49, 86	393b
394	W, Sheldon, W21	Y	W	2, R	10½, 9	E, E	P	½, ½	Sheldon	10, 11	42x3-58x3½	L	Gemmer	46, 2	I, Smith	175	36x5-36x5d	6,000	40, 70	394
395	I, Own	Y	W	2, R	14, 14	C, C	P	½, ½	Perfection		48x3-52x4	L	Ross	48, 0	S, Dayton	168	38x7p-42x9p	6,000	50, 75	395
396	I, Own	N	BS	2, R	10½, 10½	C, E	R	½, ½				L	Own	61, 0	S	1743	36x5-40x5d	7,075	54, 70	396
397	W, Timken, 6660	Y	W	2, R	11, 10	E, E	P, Savage	½, ½	Detroit	10, 14	42x3-56x3½	L	Ross		I, Smith	180	36x5-36x5d	6,600	—, 76	397
398	W, Timken, 6660	N	B	2, R	8, 9½	E, E	P, Smith	½, ½	Detroit	11, 14	42x3-54x3½	L	Ross	58, 0	W, Bimel	168	36x5-40x10	6,600	50, 70	398
398a	W, Sheldon, W31	N		2, R		E, E	R, Own	½, ½	Sheldon	12, 17	46x3-60x3½	L	Ross		W	160	36x5-36x5d		55, 75	398a
399	W, Timken			2, R		C, E	P, Parish		Tuthill			L	Ross		S, Clark	166	36x6-36x10			399
400	W, Timken, 1631B	N	W	2, R	10, 9	E, E		½, ½	Mather	8, 13	48x3-60x3	L	Ross	58, 0	W, St. Marys	156	36x5-36x5d	7,200	60, 80	400
401	W, Timken, 6652	Y	B	2, R		E, E	P	½, ½	Spring Perch	11, 14	41½x3-56x3½	R	Gemmer	59, 10	W, Archibald	167½	36x5-40x5d	6,720		401
402	W, Timken, 6652	N	W	2, R	9, 10	E, E	R, Own	½, ½	Tuthill	9, 12	42x3-54x3½	L	Ross		W, Schwarz	176	36x5-40x5d	6,500	55, 75	402
403	I, Clark	N	B	2, R	11, 11	C, E	R	½, ½	Mather	8, 12	44x3-56x3½	L	Lavine	64, 0	S, Clark	160	36x5-40x5d	6,800	50, 80	403
404	W, Timken, 6660	N	B	2, R		E, E	P, Parish	½, ½	Merrill	12, 15	44x2½-52x3½	L	Gemmer		I, Smith	164	36x5-36x5d	6,430	60, 82	404
405	W, Wisc., 900D	Y	B	2, R	11½, 9	E, E	R	½, ½	Spring Perch		42x3-56x3½	L	Ross	56, 0	S, Detroit	168	36x5-36x10	6,400	55, 80	405
406	W, Timken, 6660	Y	B	2, R	9½, 8½	E, E	R, Own	½, ½	Mather	10, 15	40x2½-54x3	L	Gemmer		W, Standard	168	36x5-36x10	6,850	60, 75	406
407	W, Timken, 6652	N	B	2, R	14½, 10½	E, E	P, Parish & B.	½, ½	Perfection	9, 13	44x3-54x3½	L	Ross	62, 0	I, Smith	170	36x5-40x5d	6,600	60, 78	407
408	W, Own	Y	B	2, R	11½, 10½	E, E	R, Savage	½, ½	Perfection	8, 15	44x3-56x3½	L	Ross	60, 0	W, Prudden	160	36x5-36x10	6,450	50, 80	408
409	W, Sheldon, W31	Y	B	2, R	11, 9	E, E	P, Savage	½, ½	Iron City	11, 17	42x2½-56x3	L	Gemmer	59, 0	W, Jones	165	36x5-36x5d	5,750	60, 70	409
411	W, Timken, 6660	Y	W	2, R		E, E	P, Smith	½, ½	Mather	8, 15	46x3-56x3	R	Gemmer		S	170	36x5-36x5d	7,250	50, 90	411
412	W, Timken, 6652	Y	W	2, R	9½, 9	E, E	P, Smith	½, ½	Rowland	9, 15	42x3-56x4	L	Ross	60, 0	I, Smith	154	36x5-36x10	6,750	86, 70	412
413	I, Own	N	S	4, FR	15, 15	C, C	P, Parish & B.	½, ½	Tuthill	6, 8	41½x3-41½x3	L	Wohlrab.	60, 0	W, Prudden	130	36x8-36x8	3,800	40, 60	413
414	W, Timken			2, R			P									168	36x5-40x5d			414
415	W, Timken, 6652	N	B	2, R	14½, 8½	E, E	P, Own	½, ½	Mather	7, 13	44x3-60x3½	L	Ross	59, 8	W, Prudden	172	36x5-36x5d	7,300	53, 69	415
416	W, Timken, 6660	N	B	2, R	10, 8	E, E	P	½, ½	Mather	8, 12	44x3-56x3½	L	Gemmer	48, 10	I, Smith	156	36x5-36x5d	7,000	62, 75	416
417	W	N	B	2, R		E, E	P	½, ½		9, 14	48x3-56x3½	L	Ross		W	128	36x5-40x5d	7,235		417
418	W	Y	B	2, R		E, E	P	½, ½		9, 17	42x3-56x3½	L	Ross	58, 0	I	162	36x5-36x5d	7,550		418
419	W, Timken, 6652	Y	W	2, R	9, 10½	E, E	P	½, ½	Detroit	10, 14	44x3-58x4	L	Ross	46, 0	W, Prudden	162	36x5-40x5d	7,000	50, 20	419
419a	W, Sheldon, W31	Y	B	2, R	10, 11½	E, E	R, Own	½, ½	Tuthill	11, 12	42x3-54x3½	L	Ross	62, 0	I, Smith	170	36x5-40x12	8,000	50, 85	419a
420	W, Sheldon, W30	Y	B	2, R	10, 8½	E, E	R	½, ½	Sheldon	9, 15	44x3-60x4	R	Ross		W, Wayne	176	36x5-36x5d	6,000	40, 70	420
421	W, Timken, 6652	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Detroit	10, 12	44x3-54x4	L	Jacox	55, 0	S, Own	163	36x5-40x5d	7,540	56, 75	421
422	W, Standard	Y	B	2, R		E, E	P, Own	½, ½	Perfection		46x3-62x3½	L	Ross	61, 0	S, Smith	156	36x5-40x5d	8,350	76, 91½	422
423	W, Timken, 6652	Y	W	2, R	9, 8	E, E	R	½, ½	Detroit	12, 16	45x2½-54x3½	L	Gemmer		I, Smith	144	36x5-36x5	6,825	25, 80	423
424	W, Sheldon			2, R		E, E	R, Own		Sheldon			L	Ross		W, Schwarz	160	36x5-36x5d			424
425	W, Timken			2, R				½, ½	Tuthill				Ross		W	160	36x5-36x5d			425
426	W, Hindley			2, R		E, C	P, Savage	½, ½	Perfection				Ross		W, Wayne	156	36x5-36x5d			426
427	W, Sheldon, W31	N	B	2, R	11½, 8½	E, E	R	½, ½	Sheldon	9, 14	40x3-50x3½	L	Wohlrab.	54, 0	I, Smith	160	36x5-36x5d	7,150	66, 75	427
428	I, Own		B	2, R		E, E	P	½, ½		10, 14	42½x3-57½x4	L	Own		W	162	36x5-40x10	7,500	50, 68	428
429	B, Own			4, FR		E, C	P, Castle		Spring Perch			R	Ross		W, Standard	150	36x7-36x7			429
430	I, Clark, 3D	Y	B	2, R	11½, 12	C, E	P	½, ½	Perfection	11, 13	46x3-62x3½	L	Jacox	62, 6	S, Clark	165	36x5-36x10	6,400	50, 75	430
431	W, Sheldon, W31	N	W	2, R	10, 9½	E, E	R	½, ½	Sheldon	9, 14	42½x3-56x3½	L	Ross	36, 0	I, Smith	160	36x5-36x5d	8,000	—, 80	431
432	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	11, 15	46½x3-54x3	L	Gemmer	56, 0	W	150	36x5-36x5d	9,285	50, 90	432
433	I, Clark	N	B	2, R	9½, 13½	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	433
434	W, Standard	N	B	2, R	9½, 11	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	434
435	W, Sheldon, W30	Y	W	2, R	10½, 8½	E, E	P, Smith	½, ½	Mather	11, 12	44x3-62x3½	L	Ross	50, 0	I, Smith	168	36x5-36x5d	7,200	57½, 74½	435
436	W, Timken, 6652	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 14	44x3-52x3	R	Ross		W, W't'rh'se	163	36x5-36x10	7,200	50, 75	436
437	W, Timken, 6652	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	8, 12	42x3-52x3½	L	Lavine	66, 4	S, Standard	156	36x5-40x5d	6,500		437
438	W, Sheldon, W30	Y	B	2, R	14, 9	E, E	P, Parish & B.	½, ½	Merrill	10, 15	44x3-56x3½	L	Ross		W, Hoopes	160	36x5-36x5d	6,850	44, 88	438

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7,000 (Maccar)—10,000 (GMC)

INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	7,000 Pounds—Con.																			
439	Maccar, M-2	4,500	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	50 S, 4	Brown-L, 50	N	Spicer	439
440	Mack, AC	4,950	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	440
441	Mapleleaf, CC		Hinkley, HA200	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	441
441a	Master, E (int)	4,640	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	441a
442	Master, A, (worm)	4,190	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	442
443	Menominee G	4,270	Continental, E4	4	4½x5½-32.4	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	443
444	National, IA		Waukesha, NU4R	4	4½x5½-32.4	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 50	N	Spicer	444
445	Nelson & LeMoon, F3½		Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-Lipe	S, 4	Brown-L, 50		Thermoid	445
446	Noble, E70		Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 4	Warner, T53			446
447	Northway, B3	4,400	Own	4	4x6-25.6	FS	Pierce	P	C, G & O	Y	Stromberg	G	B	Y	M, Fuller	S, 4	Fuller, GU6	N	Spicer	447
447a	O. K., M	4,250	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller, H			447a
448	Old Reliable, C	4,900	Wisconsin, UU	4	4½x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	448
448a	Oneida, D9	4,345		4	4½x5½-32.4	F	Own	P	C, Moline	Y	Stromberg	G	M, Bosch	N	M	S, 4		N	Peters	448a
448b	Orleans	3,900		4	4½x6-32.4			P	T	N	Master	G	M, Eisemann	N	M	I, 4	Cotta			448b
449	Paige, 51-18	4,385	Hinkley, HA200	4	4½x5½-32.4		Simplex	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L	N	Spicer	449
450	Parker, J20	4,400	Wisconsin, VAU	4	4½x6-32.4	F	Monarch	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Warner, T53	N	Kinsler-B	450
450a	Powers, C		Hinkley, HA	4	4½x5½-32.4	F	Hinkley	P	T, G & O		Zenith	G	M, Eisemann		P, Detroit	S, 4	Fuller		Uni. Mch.	450a
451	Republic, 20	3,845	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, Own	N	Stromberg	G	M		M, Fuller	S, 4	Fuller, GU5	N	Hartford	451
452	Reynolds, 7A	4,800	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	452
453	Royal	4,200	Wisconsin	4	4½x6-32.4		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			453
454	Sandow, M	4,395	Continental, E4	4	4½x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	454
455	Sanford, W35	4,200	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	455
456	Schacht		Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 8	Own	N	M & E	456
457	Selden, 3½A	4,325	Continental, E7	4	4½x5½-32.4	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	457
458	Service, 71	4,285	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	458
459	Service, 76	4,485	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	459
460	Signal, M	4,275	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	460
461	Standard, 66		Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	461
462	Sterling		Own	4	4½x6½-32.4	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	462
463	Stewart, 10	3,995	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU4	Y	Hartford	463
464	Sullivan, H	4,650	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Bush	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Spicer	464
465	Super, 70		Wisconsin, UAU	4	4½x6-28.9	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	465
466	Tiffin, PW	4,175	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	S, 4	Fuller, G	Y	Peters	466
467	Titan	4,550	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, R	N	M & E	467
468	Tower, G	4,400	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Own	N		G	M	N	M, Fuller	S, 4	Fuller, G	N		468
468a	Transport, 70	4,195	Buda, YU	4	4½x6-32.4	F	Duplex	P	C	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Cotta, RU	N	Hartford	468a
469	Twin City	4,750	Wisconsin, JAU	4	5½x6-42.0	F	Pierce	P	C		Stromberg		K-W		M, Hele-Shaw	I, 3	Cotta			469
470	United, C	3,975	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			470
471	Universal, L		Buda	4	4½x5½-28.9		Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			471
473	Victor, M	3,800	Continental, E4	4	4½x5½-32.4	FS		P	Own		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-Lipe			473
474	Walter, (Wis.), MO3		Own	4	4½x6-30.6	FS	Own	P	T, Own		Zenith		M, Swiss		C, Own	S, 4	Own			474
475	Ward LaFrance, 4A	4,490		4	4½x6½-32.4	F		P	T, Own	Y	Zenith	G	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	475
476	Watson, 18		Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'r'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	476
477	Wichita, O	4,000	Beaver, JB	4	4½x6-28.9	F	Duplex	P	C, E & M	Y	Stromberg	G	M	N	M	I, 4	Cotta	N	Thermoid	477
478	Wilcox, D		Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		478
479	Wilson	3,950	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	479
480	Winther, 70	4,200	Wisconsin, TAU	4	4x6-25.6	F	N	P	T, Bremer	N	Master	G	M Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	480
	6,000 Pounds:																			
480a	American	4,575	Wisconsin	4	4½x6-32.4	F	Pierce	P	T, G & O		Stromberg	G	M, Eisemann		P, Detroit	S, 4	Covert		Acme	480a
481	Bessemer, K2	4,285	Continental, E7	4	4½x5½-32.4	S	Pierce	P	C, Standard	Y	Rayfield	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	481
481a	Bethlehem, J	3,995	Own	4	4½x5½-32.4	F	Pierce	P	C, Livingston	N	Zenith	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Universal	481a
481b	Bridgeport, 4C	3,850	Buda, YTU	4	4½x6-32.4	FS	Pierce	P	T, Own		Stromberg	G	M, Eisemann		P, Borg & B	S, 4			Hartford	481b
481c	Denby, 27	4,600	Continental, E7	4	4½x5½-32.4	F	Duplex	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Own	S, 4	Fuller, G5	N	Universal	481c
481d	Double-Drive, B	4,000	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T		Zenith	G	M, Louraine		P, Borg & B	S, 4	Own		Own	481d
482	Gabriel, F	4,300	Buda, YU	4	4½x6-32.4	F	Duplex	P	T, G & O		Rayfield		M, Bosch		P, Borg & B	S, 4	Brown-L, 60			482
483	Highway-Knight, A		Moline-K., W	4	4x6-25.6	F		T	T, Own	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Own	N	Thermoid	483
484	Jumbo, 40	5,200	Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	484
485	Kimball, E	4,975	Wisconsin, JU	4	5 1–10x5½-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	485
486	Moreland, 19G	4,975	Cont'l, Class B	4	4½x6-36.0	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	486
487	Packard, E	4,550	Own	4	4½x5½-32.4	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	487
488	Riker, BB	4,700	Own	4	4½x6-28.9	S	Own	P	T	N	Ball & Ball	G	M, Berling	N	C, Own	S, 4	Own	N	Own	488
489	Rowe, HW	4,500	Wisconsin	4	4½x6-32.4	F	Simplex	P	C, Fedders		Zenith		M, Bosch			S, 4	Brown-L		Spicer	489
490	Union, H	3,975	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	490
490a	U. S. S		Hinkley, HA200	4	4½x5½-32.4	F	Hinkley	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Blood	490a
490b	Ware, A	4,000		8	3½x5-39.2	FS	Pierce	P	T		Stromberg	G			M	S, 2			Own	490b
	10,000 Pounds:																			
491	Acason, M	5,450	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Detlaff, H8	I, 4	Cotta, S	Y	Blood	491
491a	Acme, E	5,150	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, T	N	Blood	491a
491b	Atterbury, 8E	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Zenith	G	B, M	Y	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	491b
492	Autohorse, 10	2,000	Continental	4	3½x5-22.5		N	P	C, Eureka		Stromberg		M, Eisemann	N	P, Borg & B	S, 3	Detroit			492
493	Available, H5	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer-Bld	493
494	A & B, 5T		Own	4	5½x3½-42.8		N	P	T, Bush		Schebler		M, Bosch		M, Brown-L	S, 4	Brown-Lipe			494
495	Bollstrom, A		Own	4	4½x5½-28.9			P	Own		Stromberg		M, Bosch			I, 4	Own		Own	495
496	Brockway, T	5,250	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	496
496a	Chicago, D5		Hercules	4	4½x5½-32.4	F	Simplex	P	T	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-Lipe	N	Peters	496a
497	Clydesdale, 120C	5,500	Own	4	4½x6-36.1	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	497
498	Couple-Gear, AC	6,700	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, E'sm'nn	N	†	† 6	Own		Own	498
499	Day-Elder, E	4,950	Buda, YU	4	4½x6-32.4	F	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 60	N	Hartford	499
500	Denby, 210	5,350	Continental, E7	4	4½x5½-32.4	F	Duplex	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Own	S, 4	Warner, T53	N	Peters	500
501	Diamond T, S	5,900	Class B, U. S	4	4½x6-36.1	FS	Pierce	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	501
501a	Diamond T, EL	5,675		4	4½x5½-32.4	FS		P	T, G & O	N	Stromberg	G	M, Bosch	N	M	S, 4			Spicer	501a
502	Fageol	5,300	Waukesha, DU	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	502
503	Federal, XE	4,750	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner	N	Spicer	503
504	Garford, 68	5,000		4	4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		504
505	Kiary, M	5,150	Buda, BTU	4	5x6½-40.0	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	505
506	GMC, 101A		Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	506

† Electric Transmission

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TRUCK SPECIFICATIONS

7,000 (Maccar)—10,000 (GMC)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
439	W, Timken, 6652..	N	B	2, R	9 9/16, 8¾	E, E	P, Parish.....	½, ½	Merrill....	9, 14	42x2½-56x3½...	L	Ross.....	.....	S, Dayton..	174	36x5-36x5d.....	6,175	—, 70	439
440	C, Own.....	N	B	2, R	11½, 10¾	C, E	P, Own.....	½, ½	Merrill....	9, 10	46x3½-52x4...	L	Own.....	52, 6	W, Own....	Opt.	36x5-36x5d.....	8,070	46, 66	440
441	W, Sheldon, W31.	Y	B	2, R	10, 8¾	E, E	R, Own.....	½, ½	Sheldon....	—, 15	46x3-56x4.....	L	Ross.....	.....	W, Hayes..	160	36x5-36x5d.....	7,000	50, 70	441
441a	I, Walker.....	Y	BS	2, R	.....	C, E	P, Parish & B..	½, ½	Detroit....	12, 15	44x3-58x4.....	L	Ross.....	48, 0	S.....	158	36x5-40x5d.....	7,000	58, 72	441a
442	W, Timken, 6652..	Y	B	2, R	11¾, 10¾	E, E	P, Parish & B..	½, ½	Detroit....	12, 15	44x3-58x4.....	L	Ross.....	48, 0	S.....	158	36x5-40x5d.....	7,000	58, 72	442
443	W, Timken, 6652..	N	B	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	11, 11	44x2½-54x3½...	L	Ross.....	.....	W, Standard	160	36x5-36x5d.....	6,650	.....	443
444	W, Timken, 6560..	N	W	2, R	9¾, 10¾	E, E	R.....	½, ½	Mather....	9, 17	46x3-58x3½...	L	Ross.....	54, 0	W, Hayes..	158	36x5-40x5d.....	7,000	.....	444
445	W, Timken, 6652..	Y	.....	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	.....	.....	.....	Lavine.....	.....	W, Prudden.	.....	36x5-36x5d.....	.....	.....	445
446	W, Sheldon, W30..	.....	.....	2, R	.....	E, E	P, Slick-Knox..	½, ½	SpringPerch	.....	.....	.....	Lavine.....	.....	W, Bimel...	166	36x5-36x5d.....	7,500	.....	446
447	W, Sheldon, W30..	Y	B	2, R	10, 10½	E, E	P, Parish & B..	½, ½	Perfection..	10, 12	44x3-56x4.....	L	Ross.....	50, 0	S, Clark....	160	36x5-40x5d.....	7,300	51½, 73	447
447a	W, Wisc., 900.....	.....	.....	2, R	.....	E, E	P, Hydraulic..	½, ½	Liggett....	.....	.....	.....	Ross.....	.....	W, Bimel...	154	36x5-36x5d.....	.....	.....	447a
448	W, Sheldon, W30.	Y	W	2, R	11¾, 8¾	E, E	R.....	½, ½	Sheldon....	10, 16	48x3-60x4.....	R	Ross.....	.....	W, St. Marys	160	36x5-36x5d.....	6,850	—, 77	448
448a	W.....	N	B	2, R	11, 8¾	E, E	P, Detroit.....	½, ½	Mather	11, 12	44x3-56x3½...	L	Ross.....	.....	S.....	170	36x5-36x10	7,250	60, 85	448a
448b	W.....	N	.....	2, R	.....	E, E	R.....	½, ½	.....	.....	44x3-56x3½...	.....	Ross.....	.....	I, Smith...	166	36x4½-36x4d.....	.....	.....	448b
449	W, Timken.....	N	B	2, R	.....	E, E	P.....	½, ½	Perfection..	9, 14	46x3-58x4.....	L	Ross.....	.....	S, Dayton..	160	36x5-36x5d.....	7,000	60, 75	449
450	W, Own.....	N	B	2, R	14, 11	C, E	P, Smith.....	½, ½	Tuthill....	8, 16	51x3-60x3.....	L	Ross.....	64, 0	W, Bimel...	160	33x5-40x5d.....	6,300	55, 76½	450
450a	W, Wisconsin.....	.....	.....	2, R	.....	.....	.....	.....	Rowland....	.....	.....	.....	Ross.....	.....	W, St. M'rys.	167	36x5-40x10.....	6,420	.....	450a
451	I, Torbensen, E1..	Y	W, Powrlok..	2, R	.....	C, E	P, Detroit.....	½, ½	Mather....	8, 13	44½x3-52½x4...	L	Jacox.....	.....	I, Smith...	165	36x5-36x10.....	6,400	.....	451
452	W, Sheldon.....	Y	B	2, R	9¾, 9½	E, E	R, Standard...	½, ½	Perfection..	.....	44x3-56x3½...	L	Lavine.....	.....	I, Smith...	156	36x5-36x5.....	.....	.....	452
453	W, Timken.....	.....	.....	2, R	.....	E, E	R, Own.....	½, ½	Merrill....	.....	.....	.....	Ross.....	.....	W.....	158	36x5-38x5d.....	.....	.....	453
454	W, Timken, 6652..	N	W	2, R	8½, 8½	E, E	P, Savage.....	½, ½	Garden City	9, 17	44x3-56x3½...	R	Ross.....	40, 0	W, Standard	175	36x5 36x5d.....	6,650	20, 70	454
455	W, Sheldon, W30..	Y	W	2, R	10½, 8½	E, E	P, Parish & B..	½, ½	Perfection..	9, 13	46x3-54x3½...	L	Ross.....	50, 0	W, Hoopes..	174	36x5-36x5d.....	6,900	76, 87	455
456	W, Own.....	N	B	2, R	10½, 9	C, E	R, Own.....	½, ½	National..	9, 15	35x2½-50x3.....	L	Own.....	.....	W, St. Marys	168	36x5-36x5d.....	6,500	—, 70	456
457	W, Timken, 6652..	N	B	2, R	9¾, 8 15/16	E, E	P, Parish & B..	½, ½	Perfection..	10, 14	42x3-56x3½...	R	Gemmer..	62, 0	S.....	162	36x5-36x10.....	7,200	60, 78	457
458	W, Timken, 6660..	N	B	2, R	9¾, 7½	E, E	P, Own.....	½, ½	Mather....	11, 13	46x3-60x3½...	L	Ross.....	52, 0	S.....	171	36x5-36x5d.....	6,930	—, 72	458
459	W, Timken, 6660..	N	B	2, R	9¾, 7½	E, E	P, Own.....	½, ½	Mather....	11, 13	46x3-60x3½...	L	Ross.....	52, 0	S.....	171	36x5-36x5d.....	7,280	—, 72	459
460	W, Timken, 6652..	N	B	2, R	11, 11	E, E	P, Savage.....	½, ½	Detroit....	11, 16	44x3-56x3½...	L	Ross.....	61, 0	W, Hayes..	168	36x5-40x10.....	7,070	—, 84	460
461	W, Timken, 6660..	N	B	2, R	9½, 8½	E, E	P, Parish & B..	½, ½	Perfection..	10, 15	45½x3-52½x3½...	L	Gemmer..	.....	W.....	160	36x5-36x5d.....	6,480	57, 70	461
462	W, Timken, 6652..	N	B	2, R	11½, 10½	E, E	P, W.....	c, ½c	Mather....	8, 10	48x3-60x3½...	L	Ross.....	53, 6	W, Prudden.	162	36x5-40x5d.....	8,300	53, 92	462
463	I, Clark, 3D.....	Y	B	2, R	10, 10	C, C	P, Hydraulic...	½, ½	Detroit....	10, 14	41x2½-54x4.....	L	Ross.....	52, 0	S, Clark....	165	36x5-36x5d.....	6,080	64½, 80½	463
464	W, Timken, 6652..	N	B	2, R	9½, 8½	E, E	P, Parish.....	½, ½	Sheldon....	9, 13	46x3-56x3½...	L	Ross.....	58, 6	W, Wayne..	170	36x5-36x5d.....	6,000	50, 68	464
465	W, Sheldon, W30..	Y	B	2, R	12, 12½	E, E	P.....	½, ½	Sheldon....	10, 11	44x3-58x4.....	L	Ross.....	50, 0	S.....	164	36x5-40x5d.....	7,300	.....	465
466	W, Sheldon, W31..	N	B	2, R	10, 9	E, E	R.....	½, ½	Kalamazoo.	9, 16	42x3-52x3½...	L	Ross.....	62, 0	I, Smith...	160	36x5-40x5d.....	6,950	40, 60	466
467	I, Clark, 3.....	N	B	2, R	12, 16	E, C	P, Parish & B..	½, ½	Sheldon....	9, 11	48x3-60x3½...	L	Lavine...	50, 0	S, Dayton..	156	36x5-40x5d.....	7,350	57, 80	467
468	W, Timken.....	N	B	2, R	10½, 10½	E, E	P.....	½, ½	Detroit....	.....	44x3-56x3½...	L	Ross.....	.....	W.....	165	36x5-36x5d.....	7,010	—, 70	468
468a	I, Clark, 3D.....	Y	B	2, R	11, 11½	C, E	P, Detroit.....	½, ½	Detroit....	11,13	46x3-54x4.....	L	Jacox.....	.....	S, Clark....	170	36x5-36x10.....	7,150	20, 80	468a
469	I.....	.....	.....	4, FR	.....	.....	.....	.....	.....	.....	.....	.....	Ross.....	.....	.....	140	36x6-36x6.....	.....	.....	469
470	I, Clark, 3D.....	.....	.....	2, R	.....	E, C	P, Detroit.....	½, ½	Detroit....	.....	.....	.....	Lavine.....	.....	S.....	157	36x5-36x5d.....	.....	.....	470
471	C, Own.....	.....	.....	2, R	.....	E, E	R.....	½, ½	Kalamazoo	.....	.....	.....	Lavine.....	.....	W.....	156	36x5-36x5d.....	.....	.....	471
473	W, Timken.....	.....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	Gemmer..	.....	.....	176	36x6-36x5d.....	.....	.....	473
474	E, Own.....	.....	.....	4, FR	.....	C, C	R, Own.....	½, ½	.....	.....	.....	.....	Own.....	.....	S, Own....	108	40x4d-40x4d.....	.....	.....	474
475	W, Timken, 6652..	N	W	2, R	10¼, 8 5/16	E, E	P, Detroit.....	½, ½	.....	.....	46x3-60x3½...	L	Ross.....	.....	I, Smith...	162	36x5-36x5d.....	7,750	—, 85	475
476	W, Empire, 12....	Y	B	2, R	12½, 6¾	E, E	P, Parish.....	½, ½	Sheldon....	11, 12	44x3-56x3½...	L	Gemmer..	.....	W, Crane ..	168	36x5-36x10.....	6,950	.....	476
477	W, Sheldon, W30..	Y	W	2, R	10, 8½	E, E	P, Own.....	½, ½	Detroit....	.....	56x2½-56x3.....	R	Ross.....	.....	S.....	165	36x5-36x5d.....	7,200	.....	477
478	W, Sheldon, W30..	Y	B	2, R	.....	E, E	P.....	½, ½	Own.....	10, 12	40x2¾-60x4.....	L	Own.....	.....	I, Smith...	154	36x5-36x5d.....	6,400	25, 75	478
479	W, Timken, 6652..	Y	B	2, R	9¾, 8½	E, E	R, Own.....	½, ½	Perfection..	11, 17	46x3-60x3½...	L	Ross.....	.....	W.....	160	36x5-36x5d.....	6,800	60, 80	479
480	I, Clark, 3D.....	Y	B	2, R	11½, 12	C, E	R, Own.....	½, ½	Mather....	8, 10	46x3-56x4.....	R	Ross.....	62, 0	S, Clark....	150	36x5-36x5d.....	6,400	45, 80	480
480a	W, Wisconsin.....	.....	.....	2, R	.....	.....	.....	.....	SpringPerch	.....	.....	.....	Lavine.....	.....	I, Smith...	158	36x5-36x5d.....	6,475	.....	480a
481	I, Torbensen, E...	N	B	2, R	11, 11	E, C	P.....	½, ½	Perfection..	10, 12	44x3-56x3½...	L	Ross.....	.....	W, Schwarz	175	36x5-36x10.....	6,700	54, 69	481
481a	I, Torbensen.....	Y	B	2, R	12½, 14¾	C, E	P, Detroit.....	½, ½	Mather....	10, 14	44x2½-56x3½...	L	Lavine...	55, 0	I, Smith...	162	36x5-36x5d.....	6,100	27, 90	481a
481b	W.....	.....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	Ross.....	.....	.....	170	36x10-36x10.....	9,000	.....	481b
481c	I, Clark, 3.....	Y	B	2, R	13½, 11½	C, E	P, Detroit.....	½, ½	Detroit....	10, 18	42x3-54x3½.....	L	Ross.....	56, 8	I, Smith...	170	36x5-36x5d.....	7,020	56, 78	481c
481d	W, Own.....	.....	.....	2, R	.....	.....	.....	½, ½	Own.....	.....	.....	.....	Lavine.....	.....	W, Standard	130	36x6-36x6.....	.....	.....	481d
482	W, Timken, 6652..	.....	.....	2, R	.....	E, E	P, Parish.....	½, ½	Merrill....	.....	.....	.....	Gemmer..	.....	I, Smith...	180	36x5-40x5d.....	.....	.....	482
483	W.....	Y	.....	2, R	11, 10	E, E	P.....	½, ½	Sheldon....	.....	46x3-56x3½...	L	Ross.....	.....	W, Schwarz.	159	36x5-36x6d.....	7,200	.....	483
484	I, Clark, 3D.....	Y	B	2, R	13½, 16¾	C, E	P.....	½, ½	Perfection..	10, 13	46x3-62x3½	L	Jacox.....	62, 6	S, Clark....	165	38x7p-44x10p.....	6,800	50, 75	484
485	W, Sheldon, W30..	Y	B	2, R	.....	E, E	P.....	½, ½	U. S.....	12, 16	45½x3-53½x3½...	L	Ross.....	39, 6	I, Smith...	.....	36x5-40x10.....	.....	50, 80	485
486	W, Timken, 6652..	N	W	2, R	9½, 11½	E, E	P.....	½, ½	U. S.....	9, 12	50x3-50x4.....	L	Ross.....	.....	I, Smith...	162	36x5-40x5	7,800	55, 67	486
487	W, Own.....	N	S	2, R	10½, 10½	C, E	R, Own.....	½, ½	.....	11, 14	42⅞x3-46x3.....	L	Own.....	56, 0	W.....	156	36x5-40x5d.....	7,460	55, 75	487
488	W, Own.....	N	B	2, R	12, 9	C, E	P.....	½, ½	.....	9, 17	42x3-54x3.....	R	Ross.....	55, 0	S.....	150	36x5-36x6d.....	7,200	63, 77	488
489	W, Sheldon.....	.....	.....	2, R	.....	E, E	.....	½, ½	Sheldon....	.....	.....	.....	Ross.....	.....	W, Hoopes	158	36x5-36x6d.....	6,370	—, 75	489
490	I, Torbensen, E...	Y	B	2, R	13, 12	C, C	P, Own.....	½, ½	Mather....	8, 15	42x3-56x4.....	L	Ross.....	.....	I, Smith...	171	36x6-36x10.....	.....	50, 70	490
490a	W, Sheldon, W31.	Y	B	2, R	11½, 8½	E, E	P.....	½, ½	Sheldon....	9, 10	44x3-56x3½.....	L	Lavine ..	60, 0	W, Schwarz	168	36x5-36x5d.....	7,600	51, 85	490a
490b	B.....	.....	.....	2, R	.....	.....	.....	½, ½	Tuthill....	.....	.....	.....	.....	.....	.....	135	Optional.....	.....	.....	490b
491	W, Timken, 6760..	Y	W	2, R	11, 10	E, E	P, Savage.....	½, ½	Detroit....	12, 18	42x3-56x4.....	L	Ross.....	.....	I, Smith...	187	36x6-40x6d.....	8,350	—, 77	491
491a	W, Timken, 6760..	N	B	2, R	9, 9½	E, E	P, Smith.....	½, ½	Detroit....	11, 17	44x3-56x4.....	L	Ross.....	64, 0	I, Smith...	180	36x6-40x12.....	8,800	50, 70	491a
491b	W, Timken, 6752..	N	B	2, R	.....	E, E	P.....	½, ½	Spring Perch	10, 12	41½x3-54x4.....	L	Gemmer..	59, 10	S, Dayton..	167½	36x5-40x6.....	9,350	.....	491b
492	I, Own.....	.....	.....	1, F	.....	C, E	R, Own.....	.....	Champion..	.....	.....	.....	Own.....	.....	W, Bimel...	43	34x10.....	.....	.....	492
493	W, Timken, 6752..	N	W	2 R	9, 10	E, E	R, Own.....	½, ½	Tuthill....	9, 15	44x3-60x4.....	L	Ross.....	.....	I, Smith...	190	36x6-40x12.....	9,500	55, 75	493
494	I, Own.....	.....	.....	2, R	.....	C, C	R, Own.....	½, ½	Perfection..	.....	.....	.....	Gemmer..	.....	W.....	144	48x3½d-48x5d.....	.....	.....	494
495	I, Own.....	.....	.....	2, R	.....	C, C	R, Own.....	.....	.....	.....	.....	.....	Gemmer..	.....	S, Clark....	144	36x6-36x6.....	.....	.....	495
496	W, Timken, 6752..	N	B	2, R	.....	E, E	P, Parish	½, ½	Merrill....	12, 17	44x3-58x4.....	L	Gemmer..	.....	I, Smith...	174	36x6-40x6d.....	9,075	60, 90	496
496a	W, Timken, 6752.	Y	B	2, R	9, 10	E, E	.....	½, ½	.....	.....	44x3-56x4.....	L	Gemmer..	42, 0	Optional...	167	36x6-40x12.....	8,110	56, 80	496a
497	W, Timken, 6752..	N	B	2, R	13¾, 9¾	E, E	P, Parish & B..	½, ½	Perfection..	11, 18	44x3-56x4.....	L	Ross.....	58, 0	I, Smith...	176	36x6-40x6d.....	9,000	65, 76	497
498	B, Own.....	N	.....	4, FR	11, 11	E, E	R.....	½, ½	Tuthill....	12, 12	43x3-43x3.....	R	Own.....	36, 0	S, Own....	144	36x5-36x5.....	11,000	50, 50	498
499	W, Sheldon, W51.	Y	B	2, R	10¼, 10½	E, E	P, Savage.....	½, ½	Iron City...	12, 13	48x3-60x4.....	L	Gemmer..	54, 0	I, Smith...	150	36x5-40x6d.....	8,250	60, 70	499
500	I, Clark, 5D	Y	B	2, R	13¾, 13¾	E, C	P, Detroit.....	½, ½	Detroit....	10, 18	42x3-54x4.....	L	Ross.....	62, 0	S, Clark....	170	36x6-40x6d.....	8,590	58, 80	500
501	W, Timken, 6760.	Y	W	2, R	.....	E, E	P, Smith.....	½, ½	Mather....	10, 14	46x3-56x4.....	L	Gemmer..	.....	S.....	180	36x6-40x6d.....	8,790	50, 90	501
501a	W, Timken	Y	W	2, R	.....	E, E	P.....	½, ½	Mather....	10, 14	46x3-56x4.....	L	Gemmer..	.....	S.....	180	36x6-40x6d.....	8,790	50,90	501a
502	W, Timken, 6752..	N	B	2, R	14½, 10¼	E, E	P, Own.....	½, ½	Mather....	9, 16	46x3-60x4.....	L	Ross.....	59, 8	W, Prudden.	172	36x6-40x6d.....	8,300	56, 73	502
503	W, Timken, 6760..	N	B	2, R	9, 10	E, E	R.....	½, ½	Mather....	8, 16	44x3-56x3½...	L	Gemmer..	57, 0	I, Smith...	156	36x6-40x6d.....	8,100	65, 78	503
504	C.....	N	B	2, R	.....	C, E	P.....	½, ½	.....	10, 17	48x3-50x3.....	R	Ross.....	.....	I, Smith...	128	36x6-40x6d.....	8,870	.....	504
505	W, Timken, 6752..	Y	W	2, R	9, 10½	E, E	P.....	½, ½	Detroit....	13, 18	46x3-60x4.....	L	Ross.....	52, 0	S, Dayton..	182	36x6-40x6d.....	8,500	50, 20	505
506	W, Timken, 6752..	N	B	2, R	11½, 10	E, E	R, Own.....	½, ½	Detroit....	10, 16	44x3-54x4.....	L	Jacox.....	55, 0	S, Own.....	163	36x6-40x6d.....	8,485	56, 75	506

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10,000 (Gramm-Bernstein)—15,000 INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	10,000 Pounds—Con.																			
507	Gramm-Bernstein, 50	5,875	Continental, B2	4	4¼x6-36.1	F	Cont'l	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	507
508	Hall (chain)	5,100	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	508
509	Hall (worm)	5,100	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	509
510	Harvey, WKA	5,200	Buda	4	4½x6-32.4	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe			510
510a	Hendrickson, K	5,400	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P			Stromberg	G	M, Dixie		M	S, 4	Brown-L		Thermoid	510a
511	Highway-Knight, B		Moline-K., W	4	4x6-25.6	F		P	T, Own	N	Zenith	G	M, Eisemann	Y	M, Brown-L	S, 4	Own	N	Thermoid	511
512	Hurlburt, D	5,500	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60			512
513	Indiana, 50	5,075	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	513
514	Kelly-Springfield, K50	5,150	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	514
515	Kimball, F	5,975	Wisconsin, JAU	4	5½x6-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	515
516	Kissel, Goliath	5,085	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	516
517	Kleiber, D	5,600	Continental, T	4	5½x5½-44.1	S	Pierce	P	T, R'e-T'rn'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	517
517a	Koehler, MT	3,450	Hercules	4	4 x5½-25.6						Zenith	G	M, Eisemann		P	S, 3				517a
518	Larrabee, T		Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	518
519	Mack, AC	5,500	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	519
520	Mapleleaf, DD		Hinkley, HA1600	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, H	N	Blood	520
520a	Master, F (int)	5,540	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	520a
521	Master, B (worm)	5,290	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	521
522	Menominee, J	5,450	Wisconsin, A	4	4½x5½-36.1	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	522
523	Moreland, 19J	5,350	Cont'l, Class B	4	4½x6½-36.1	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	523
524	National, JA		Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 60	N	Spicer	524
525	Nelson & LeMoon, F5		Continental, B2	4	4½x6-36.1	F	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Thermoid	525
526	Old Reliable, D	5,000	Wisconsin, J	4	5 1-10x5½-42.0	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, 8D60	Y	Spicer	526
527	Oneida, E9	5,460		4	4½x5½-32.4	F	Own	P	C, Modine	Y	Stromberg	G	M, Bosch	N	M	I, 4		N	Peters	527
528	Parker, M20	5,500	Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Warner, T53-1	N	Kinsler-B	528
530	Pierce-Arrow, R9	5,500	Own	4	4½x6-38.2	F	Own	P	T, Own	N	Stromberg	G	M, Splitdorf	N	C, Own	S, 3	Own	Y	Own	530
531	Reynolds, 10A	5,800	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	531
532	Rowe, FW	5,500	Wisconsin, AU	4	4½x6-32.4	F	Simplex	P	C, Fedders		Zenith		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Spicer	532
533	Royal	5,000	Wisconsin	4	4½x5½-36.1		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			533
534	Sandow, L	5,175	Continental, E4	4	4½x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	534
535	Sanford, W50	5,100	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	535
536	Schacht		Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 8	Own	N	M & E	536
537	Schwartz, D	4,500	Buda, YTU	4	4½x6-32.4	F	Simplex	P	C, Fedders	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	537
538	Selden, 5A	5,770	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Detlaff	S, 4	Brown-L, 60	Y	Spicer	538
539	Service, 101	5,275	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	539
540	Signal, R	5,300	Continental, B2	4	4½x6-361	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	540
541	Standard, 86		Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	541
542	Sterling (chain)		Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	542
543	Sterling, (worm)		Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	543
544	Super, 100		Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Hilliard	S, 4	Savage, 8D60	Y	Spicer	544
545	Tiffin, TW	5,250	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, 8	Y	Peters	545
546	Titan	5,400	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, 8	N	M & E	546
547	Twin City (St. Paul)	5,250	Wisconsin, JA	4	5½x6-46.2	FS	Pierce	P	C		Stromberg	G	K-W		M, M & E	I, 3	Cotta			547
548	United, V	5,100	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60			548
549	Walter, (N. Y.), S	5,600	Waukesha, DU	4	4½x6½-32.4	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Warner, T53		M & E	549
550	Ward LaFrance, 5A	5,490		4	5x6½-40.0	F		P	T, Own	Y	Zenith	G	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	550
551	White, 45	5,000	Own	4	4½x5½-28.9	F	Own	P	T, Own	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	551
551a	Wichita, S	5,000	Beaver, JA	4	4½x6-32.4	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	S, 4	Own	N	Thermoid	551a
552	Wilcox, W		Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		552
553	Wilson	5,275	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	553
554	Winther, 109	5,250	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	554
	11,000 Pounds:																			
554a	Aetna	5,375	Wisc., RBU	4	5 x6-40.0	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, T	N	Spicer	554a
555	Maccar, G-1	5,500	Wisc., RBU	4	5x6-40.0	F	Pierce	P	T, Own	N	Zenith	G	M. Eisemann	N	M, Brown-L, 60	S, 4	Brown-L, 60	N	Spicer	555
555a	Bridgeport, 6D	4,500	Buda, YTU	4	4½x6-32.4	FS	Pierce	P	Own		Stromberg	G	M, Eisemann		P, Borg & B	S, 4			Hartford	555a
	12,000 Pounds:																			
556	Doane	5,350	Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, Own		Master		M, Bosch		M, Brown-L	S, 3				556
557	Kelly-Springfield, K60	5,500	Own	4	4½x—32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	557
558	Packard, F	5,950	Own	4	5x5½-40.0	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	558
559	Royal	5,400	Wisconsin	4	5½x6-42.0		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			559
560	Tiffin, UW	5,450	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	Y	Peters	560
561	United, T		Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Muncie, 63			561
562	U. S. T		Buda, ATU	4	4½x6½-36.1	F	Simplex	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 60	N	Blood	562
	13,000 Pounds																			
563	Mack, AC	$5,750	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P Own	S, 3	Own	Y	Spicer	563
	14,000 Pounds:																			
563a	Available, H7	6,000	Waukesha	4	5x6½-40.0	FS	Waukesha	P	T, Chicago	Y	Stromberg	G	BM, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	563a
564	Couple-Gear, LDC	7,350	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, E'sm'nn	N	†	† 6	Own			564
565	Larrabee, W		Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	565
566	Old Reliable, K	6,000	Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, 6495	Y	Hartford	566
567	Royal	6,500	Wisconsin	4	5½x7-44.2		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			567
568	Winther, 140	5,900	Wisconsin, RBU	4	5 x6-40.0	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	568
	15,000 Pounds:																			
569	Mack, AC	6,000	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M. Aero	N	P, Own	S, 3	Own	Y	Spicer	569
570	Sterling		Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	570

† Electric transmission.

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TRUCK SPECIFICATIONS

10,000 (Gramm-Bernstein)—15,000

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
507	W, Standard	Y	B	2, R	12½, 10½	E, E	P, Own	½, ½	Perfection	10, 16	48x3½-64x4	L	Ross	62, 0	I, Smith	168	36x6-40x6d	[9,850	76½, 92½	507
508	C, Timken, 4800	Y	W	2, R	8, 16	E, E	R	½, ½	Detroit	12 18	45x3-52x3½	L	Gemmer		I, Smith	144	36x5-40x6	7,530	25, 80	508
509	W, Timken, 6752	Y	W	2, R	8, 9	E, E	R	½, ½	Perfection	12, 18	45x3-52x4	L	Gemmer		I, Smith	144	36x5-40x6	8,400	25, 80	509
510	W, Sheldon			2, R		E, E	R, Own	½, ½	Sheldon				Ross		I, Smith	160	36x6-40x6d			510
510a	W, Timken			2, R				½, ½	Tuthill				Ross		W, Standard	Opt.	36x6-40x6d			510a
511	W	Y		, R	11, 10½	E, E	P	½, ½	Sheldon		46x3-58x4	L	Ross		W, Schwarz	159	36x5-40x6d	8,400		511
512	W, Hindley			2, R		E, C	P, Savage	½, ½	Perfection				Ross		W, Wayne	170	36x5-40x6d			512
513	W, Sheldon, W51	N	B	2, R	9½, 10½	E, E	R, Illinois	F ½	Sheldon	10, 15	40x3-50x4	L	Wohlrab	56, 0	I, Smith	167	36x5-40x6d	9,000	66½, 78½	513
514	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	11, 14	46½x3-56½x3½	L	Gemmer	56, 0	W	150	36x6-40x6d	9,175	50, 90	514
515	W, Sheldon, W50	Y	B	2, R		E, E	P	½, ½	U. S.	12, 16	45½x3-53½x4	L	Ross	39, 6	I, Smith		36x6-40x12		50, 80	515
516	W, Sheldon, W30	Y	W	2, R	10, 8	E, E	P, Smith	½, ½	Mather	11, 13	44x3-62x3½	L	Ross	50, 0	I, Smith	180	36x6-36x6d	7,900	57½, 74½	516
517	W, Timken, 6752	N	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	11, 15	50x3-52x4	R	Ross		I, Smith	180	36x6-40x6d	9,200	50, 75	517
517a	W, Timken	Y		2, R				½, ½								142	36x4-36x7			517a
518	W, Sheldon, W50	Y	B	2, R	14, 10½	E, E	P, Savage	½, ½	Merrill	12, 17	44x3-58x4	L	Ross		I, Smith	178	36x6-40x6d	8,500	40, 84	518
519	C, Own	N	B	2, R	11½, 10½	C, E	P, Own	½, ½	Merrill	9, 13	46x3½-52x4	L	Own	52, 6	W, Own	Opt.	36x6-40x6d	8,650	48, 90	519
520	W, Sheldon, W51	Y	B	2, R	10½, 10½	E, E	R, Own	½, ½	Sheldon	—, 13	46x3-56x4	L	Ross		I, Smith	160	36x6-40x6d	8,800	60, 70	520
520a	I, Walker	Y	BS	2, R		E, E	P, Parish & B	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	50, 0	I, Smith	170	36x6-40x6d	8,000	58, 72	520a
521	W, Timken, 6752	Y	B	2, R	11, 11½	E, E	P, Parish & B	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	50, 0	I, Smith	170	36x6-40x6d	8,000	58, 72	521
522	W, Timken, 6752	N	B	2, R		E, E	R, Own	½, ½	Tuthill	9, 12	44x3-54x4	L	Ross		W, Standard	160	36x6-40x6d	8,500		522
523	W, Timken, 6752	N	W	2, R	9, 10	E, E	P	½, ½	U. S.	12, 14		L	Ross		I, Smith	162	36x6-40x6	9,400	55, 67	523
524	W, Timken, 6760	N	W	2, R	9, 10½	E, E	R	½, ½	Mather	11, 19	44x3½-60x4	L	Ross	56, 0	W, Hayes	170	36x6-40x6d	8,650		524
525	W, Timken, 6752	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x6-40x6d			525
526	W, Sheldon, W50	Y	W	2, R	10½, 10½	E, E	R	½, ½	Sheldon	10, 16	48x3-60x4	R	Ross		W, St. Marys	168	36x6-40x6d	8,400	—, 70	526
527	W	N	B	2, R	11½, 10½	E, E	P, Detroit	½, ½	Mather	11, 12	44x3-60x4	L			S	180	36x6-40x12	9,000	60, 85	527
528	W, Own	N	B	2, R	14½, 11	C, E	P, Smith	½, ½	Tuthill	8, 14	44x3-60x4	L	Ross	60, 0	I, Smith	160	36x6-40x6d	8,000	58½, 78	528
530	W, Own	N	S	2, R	12, 10½	C, E	P, Parish		Spring Perch	11, 16	33x2½-48x3	R	Own	50, 6	W, Own	168	36x5-40x6d	8,450	—, 75	530
531	W, Sheldon	Y	B	2, R	9⅜, 10½	E, E	R, Standard	½, ½	Perfection		44x3-56x4	L	Lavine		I, Smith	176	36x6-40x6			531
532	W, Sheldon, W50			2, R		E, E	R, Own	½, ½	Sheldon				Ross		W, Hoopes	170	36x6-40x6d	8,240	—, 66	532
533	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x6-40x6d			533
534	W, Timken, 6752	N	W	2, R	8¼, 8	E, E	P, Savage	½, ½	Garden City	10, 20	44x3-56x3½	R	Ross	41, 0	W, Standard	175	36x6-40x6d	7,950	20, 70	534
535	W, Sheldon, W50	Y	W	2, R	10½, 10½	E, E	P, Parish & B	½, ½	Perfection	10, 13	46x3-54x3½	L	Ross	58, 0	I, Smith	174	36x5-40x6d	8,070	75, 81	535
536	W, Own	N	B	2, R	10, 9	C, E	R, Own	½, ½	National	9, 17	35x3-50x3	L	Own		W, St. Marys	168	36x5-40x6d	8,500	—, 70	536
537	I, Torbensen, EI	Y	B	2, R	9½, 11½	E, C	P, Parish	½, ½	Rowland	10, 15	40x3-56x4	L	Ross		I, Smith	170	36x6-36x10	7,600		537
538	W, Timken, 6752	N	B	2, R	—, 10½	E, E	P, Parish & B	½, ½	Spring Perch	11, 15	46x3½-60x4	L	Gemmer	62, 0	S	164	36x6-40x12	9,800	57, 76	538
539	W, Timken, 6760	N	B	2, R	9, 10⅜	E, E	P, Own	½, ½	Mather	12, 15	46x3-60x3½	L	Ross	56, 0	S	171½	36x6-40x6d	8,760	—, 75	539
540	W, Timken, 6752	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	11, 18	44x3-56x5	L	Ross	71, 0	I, Smith	180	36x6-40x12	9,510	—, 84	540
541	W, Timken, 6760	N	B	2, R	9, 10	E, E	P, Parish & B	½, ½	Perfection		45½x3-52½x4	L	Gemmer		S, Dayton	160	36x6-40x6d	8,100	64. 75	541
542	C, Own	N	S	2, R	11½, —	E, C	P	½c, ½c	Mather	10, 12	48x3-60x4	L	Ross	47, 9	I, Smith	174	36x6-40x6d	10,000	54, 91	542
543	W, Timken, 6752	N	B	2, R	11½, 10½	E, E	P	½c, ½c	Mather	10, 12	48x3-60x4	L	Ross	47, 2	W, Prudden	168	36x6-40x6d	9,700	53, 92	543
544	W, Sheldon, W51	N	B	2, R	11½, 12	E, E	P	½, ½	Sheldon	11, 13	44x3-58x4	L	Ross	50, 0	S	164	36x5-40x6d	8,500		544
545	W, Sheldon, W51	N	B	2, R	9, 10	E, E	R	½, ½	Kalamazoo	10 16	42x3½-53x4	L	Ross	69, 0	I, Smith	168	36x6-40x6d	8,000	40, 60	545
546	I, Clark, 5	N	B	2, R	12, 16	E, C	P, Parish & B	½, ½	Sheldon	9, 13	48x3-60x3½	L	Lavine	50, 0	S, Clark	156	36x5-40x6d	9,100	57, 80	546
547	I			4, FR				½, ½					Ross			140	36x5-36x5	8,000		547
548	I, Clark, 5D			2, R		E, C	P, Detroit	½, ½	Detroit				Ross		S	160	36x5-40x6d			548
549	I, Own	Y	W	2, R	14, 14	C, C	P	½, ½	Perfection		48x3-52x5	L	Ross	48, 0	S, Dayton	168	36x6-40x6d	8,000	50, 80	549
550	W, Timken, 6752	N	W	2, R	9¼, 10⅝	E, E	P, Detroit	½, ½			50x3-60x4	L	Ross		I, Smith	190	36x6-40x6d	9,300	—, 85	550
551	I, Own	N	BS	2, R	10½, 10½	C, E	R	½, ½				L	Own	61, 0	S	174	36x6-40x6d	7,925	54, 70	551
551a	SB, Own	Y	BS	2, R	10½, 9	E, E	P, Own	½, ½	Detroit		51x3½-62x5	R	Ross		S	165	36x6-40x6d	9,200		551a
552	W, Sheldon, W50	N	B	2, R		E, E	P	½, ½	Sheldon	12, 13	48x3½-62x5	L	Own		I, Smith	162	36x5-40x6d	9,100	25, 75	552
553	W, Timken, 6752	Y	B	2, R	9, 10½	E, E	R, Own	½, ½	Perfection	11, 17	46x3-60x4	L	Ross		W	160	36x6-40x6d	7,500	60, 80	553
554	I, Clark, 5D	Y	B	2, R	11, 14	E, E	R, Own	½, ½	Mather	8, 12	46x3-56x4	R	Ross	68, 0	S, Clark	162	36x5-40x6d	8,600	45, 80	554
554a	W, Sheldon, W51	N		2, R		E, E	R, Own	½, ½	Sheldon	12, 18	46x3½-60x4	L	Ross		W	168	36x6-40x6d		55, 75	554a
555	W, Timken, 6752	N	B	2, R	9, 10½	E, E	P, Parish	½, ½	Merrill	11, 15	42x2½-56x4	L	Ross		S, Dayton	186	36x5-40x6d	8,750	—, 70	555
555a	W			2, R				½, ½					Ross			170		12,000		555a
556	C, Own			2, R			R	½, ½					Lavine		S, West	178	36x6-40x6d			556
557	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	12, 15	48½x3-56½x3½	L	Gemmer	56, 0	W	150	36x6-40x7d	9,500	50, 90	557
558	W, Own	N	S	2, R	11½, 9½	C, E	R	½, ½		12, 14	42½x3-54x3½	L	Ross	62, 0	S	156	36x6-40x7d	8,650	58, 78	558
559	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x6-40x6d			559
560	W, Sheldon, W51	N	B	2, R	9, 10	E, E	R	½, ½	Kalamazoo	10, 18	42x3½-52x4	L	Ross	34, 6	I, Smith	168	36x6-40x12	9,000	40, 60	560
561	I, Torbensen, C			2, R		E, C	R, Detroit	½, C	Detroit				Jacox		S		34x3½-34x7			561
562	W, Sheldon, W51	Y	B	2, R	11½, 10½	C, E	P	½, ½	Sheldon	11, 16	46x3-60x4	L	Lavine	62, 0	I, Smith	172	36x6-40x6d	9,725	55, 89	562
563	C, Own	N	B	2, R	11½, 10½	C, E	P	½, ½	Merrill	9, 17	46x3½-52x4	L	Own	52, 6	W	Opt.	36x6-40x12	8,672		563
563a	W, Savage	N		2, R		E, E	R, Own	½, ½	Tuthill		44x3-60x4	L	Ross		I, Smith	190	36x6-40x14	10,300		563a
564	B, Own	N		4, FR	11, 11	E, E	R	½, ½	Tuthill	14, 14	50x3½-50x3½	R	Own	36, 0	S, Own	144	36x6-36x6	12,500	50, 50	564
565	W, Sheldon, W51	Y	B	2, R	10, 10	E, E	P	½, ½	Merrill	12, 17	44x3-58x4	L	Ross		I, Smith		36x6-40x12	8,960	42, 86	565
566	C, Sheldon, RA70	N	B	2, R	9⅞, 17	C, E	R	½, ½	Sheldon	11, 13	51½x3½-59½x3½	R	Ross		W, St. Marys	124	36x6-40x7d	10,240	—, 85	566
567	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x7-40x7d			567
568	I, Clark, 5D	Y	B	2, R	11, 14	E, E	R, Own	½, ½	Mather	13, 16	46x3-56x4	R	Ross	68, 0	S, Clark	162	36x6-40x7d	9,500	45, 80	568
569	C, Own	N	B	2, R	11½, 10½	C, E	P, Own	½c, ½c	Merrill	9, 17	46x3½-52x4	L	Own	52, 6	W, Own	Opt.		9,050	50, 72	569
570	C, Own	N	S	2, R	11½, —	E, C	P	½c, ½c	Mather	10, 14	48x4-60x4	L	Ross	47, 9	I, Smith	174	36x7-40x7d	11,000	66, 91	570

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Truck Dealers Are Optimistic

Replies to Power Wagon Query on Market Conditions Show Motor Truck Dealers Are Looking for Increased Future Business Following Temporary Retardation

Trade Better in Territory

To the Editor.—We are distributers for the Kelly-Springfield in western Pennsylvania, northern Maryland and West Virginia. We find our business better in the territory than in the city. We attribute this to the fact that we are in the coal district, and the demand for coal is very great at this time. We are confident that we would have a better business in the city if financial conditions would straighten out so as to permit the loan of money on time sales at a reasonable price.

PITTSBURGH MOTOR SERVICE CORP.,
J. W. McNairs, *Mgr.*
Pittsburgh, Pa.

Money Tightness Affects Trade

To the Editor.—Truck buying in the territory which we cover, which is Texas, New Mexico, southern Oklahoma and part of Arizona, is slow, due primarily to tightness of money. This has slowed up purchasing on the part of all users of trucks, although, where there is an absolute need of trucks, the purchase is made without any seeming difficulty. The effect of this money tightness is felt in all lines of business, and there is a tendency to wait to make such purchases, and the month of September has been quoted as the time the "prospect" will be in the market. However, this is, we believe, merely a guess on their part, and if the tightness of money continues it will be pushed forward until such time as it is absolutely necessary to buy.

The obtaining of credit is the real reason of delay, due to the fact that our dealers, who come under this factory branch, are not moving their stocks as rapidly as they have been during the past year and we have found it necessary to allow other branches of the company to take some of our orders at the factory. As we operate under the parent company we do not find it necessary to obtain credit for our business needs, but believe the dealers have found difficulty in negotiating truck buyer's purchase notes against which there was a definite policy of discrimination on the part of banks, although they modified their lending policies recently and recognize the essential character of motor trucks. This does not affect, to any great extent, the dealer's ability to borrow extensively.

The marketing of the crops is, of course, one of the reasons assigned for the delay in carrying on new business, as it is always felt that where the agricultural population has plenty of money it reacts on the general market and vice versa. Continued rains have made the roads impassable in certain sections of the state and this, of course, reacts to a certain extent on the truck market. As soon as the difficulty of obtaining credit has been modified we believe that the active buying will be resumed immediately.

Dallas, Tex. TEXAS BRANCH.

400 Per Cent. Increase in Quota

To the Editor.—For the seven months ending July 31, 1920, our business in St. Louis territory showed somewhat more than 60 per cent. increase over a corresponding period in the year 1919, and we expect to increase our business in St. Louis district correspondingly for the balance of the calendar year. Truck buying is not active in this locality but, by adding materially to our sales force, cutting down our salesmen's territories, and canvassing much more closely, our business is increasing.

There is a general policy of delay on the part of most buyers and it is attributed to the unwholesome notoriety on the subject of the Nation's finance. The St. Louis banks, according to the comptroller's statement, make the second best showing of any Federal Reserve center. Our deposits are heavy, margins are large, and there is plenty of money for every legitimate business, but there does not seem to be any inclination on the part of bankers to finance any expansion policy whatsoever.

The lines of business freest from a desire to hold back seem to be the men and companies engaged in general trucking. The terminals are congested, there is a tremendous freight-car shortage and motor trucks are being looked upon as the saviour of this situation.

Difficulty of obtaining credit is the one conspicuous feature in the lessening of demand for motor trucks.

This branch has not found it necessary to cancel any orders for trucks previously filed with the factory. On the contrary, we have increased our orders for prompt shipment for the period ending September 30 by 50 trucks.

The financing of this company is handled through Pontiac, Michigan, and we can see no evidence of stringent credit. Our truck buyers' purchase notes are handled through a subsidiary corporation of the company in a manner entirely satisfactory to both the branch and the customer.

There was about July 1 a very active discrimination on the part of banks, particularly small town banks, against any paper originated from or because of the purchase of a passenger car, motor truck, tractor, tires or anything pertaining to the automotive industry. To combat this the St. Louis Dealers' Association has purchased space in the banking periodicals, and we have published some very timely advertisements concerning the stability of our country and the necessity of keeping alive the second largest industry in America. We sent these advertisements, together with letters, to the president of each bank in our territory, which comprises half of Mississippi, half of Tennessee, practically all Arkansas, southern Illinois and eastern Missouri, with the result that there has been considerable relief in the money tension.

In our opinion the rural bankers took too seriously the admonitions of the comptroller of the treasury and the directors of the Federal Reserve Banks, which were issued approximately May 1, but as time went on without any panic, or evidence of a panic becoming a reality, their minds gradually worked around to a condition more nearly normal, and their regular customers entitled to credit have been securing it. The southern bankers have almost unanimously been against the financing of automobile dealers, furnishing as a reason that they had in important southern centers many millions of dollars of cotton paper which was protected by 1919 cotton stored in southern warehouses. We answered them by telling them that when there was no market for automobile tires there would be a tremendous shrinkage in the price of high-grade cotton; when there was no market for automobiles there would be no market for the hard woods which went into automobile construction.

The whole situation, as we see it, has been brought about by a perversion of the purposes of the Federal Reserve system, and I look to immediate legislation to get the system back into its proper banking sphere.

The outcome of the present situation will unquestionably be that strong automobile dealers and manufacturers will be stronger and weak ones will be weaker. Dealers who have not learned the correct valuation of used trucks and the absolute necessity of conducting time-payment sales on a basis of true economics, will probably get a severe lesson by experience during this period, but those dealers, who have learned that their gross profit does not represent their net profit, and that the automotive industry will be conducted along the same conservative lines as boots, shoes, hardware and other commercial lines, will profit from their experience.

Beyond question the market in the St. Louis district has not been exhausted on motor trucks. On the contrary, the St. Louis branch of this company has assumed a quota which represents almost 400 per cent. increase over 1919 for the year beginning August 1, and we have no misgivings concerning our ability to deliver 100 per cent.

GENERAL MOTORS TRUCK CO.,
St. Louis, Mo. Charles E. Pagett, *Mgr.*

Banks Have Pinched Business

To the Editor.—Truck buying is very quiet in our locality, which we believe to be caused by the fact that the banks have absolutely refused to make any loans on motor vehicles of any kind. In other words, people are not buying because they can not borrow the money to buy with. I do not believe there is any one business that is buying better than another. I think the condition here is general and affects one line of business just as much as another. Of course, while the direct trouble is the fact that purchasers can not obtain credit, another reason, I believe, is that business is being held back in our particular locality until such time as this year's crop is sold and more money has come into the territory. This is primarily a farming community and, until the wheat and corn crops are sold, business generally is held back. Another thing, this territory depends upon cattle and hogs for a great deal of its income, and the cattle and hog markets are down, so business in this particular line has dropped off. There is also the attitude of the Federal Reserve Bank in this district.

We can see no reason for canceling our factory orders other than the reasons given above.

In regard to obtaining credit for our needs, we have been very well taken care of, but in regard to negotiating notes for our truck buyers, we have been unable to do this. Up to the time money tightened up we did not have much trouble, but for the last three or four months we have had to carry everything ourselves.

We can not say that there has been any policy of discrimination against truck buyers on the part of our local banks, because there never has been a time when they would purchase paper covering the purchase of motor vehicles. This is covered by a finance company in our city, but they have shut down on making any loans of this character, because they could not obtain the money from the banks to finance them with.

In regard to the banks recognizing the essential character of the motor truck, I do not believe their attitude has been to recognize or not to recognize. I think they have been absolutely neutral.

Omaha, Neb. NEBRASKA DEALER.

Trade Is "Looking Up"

To the Editor.—From what we can see the truck business is "looking up." We have just passed through a very strenuous time with practically no sales. This condition has been brought about by two conditions: First, a great many trucks were sold in the oil-fields of Texas on time payments, with a small payment down; and secondly, a great many of these trucks have come back to the dealers, and the dealers were carrying a long line of credit with the banks, and the result has been that the banks have had to hold the bag and take back a great many of these trucks. The local banks now look upon truck paper as being very poor collateral. The banks in this section have absolutely refused to make any more loans on truck paper, so that it is impossible to handle any more paper through them, while

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the finance companies, having had the same experience, have curtailed the taking of truck paper to the minimum and have also raised their interest rates, and the time limit has been practically cut in two.

The banks have no one to blame except themselves for this condition, as they were rather lax on their credit lines, and did not insist on a big enough first payment on truck paper, nor did they take into consideration whether or not the buyers had a contract that was sufficient to warrant their purchasing a truck and paying for it. This has made it very hard on legitimate dealers who are trying to operate in a business way and has caused them no end of trouble in getting sufficient money to run their business. The local banks do not seem to realize that the truck business is essential to the transportation of the country, and there does not seem to be any inclination on their part to loosen up on this end of the automobile business in the near future.

A great many dealers have been forced to turn back shipments from the factory; in fact, there have been times when there were as high as one hundred cars of trucks and automobiles on the tracks in Ft. Worth that could not be moved.

SECRETARY.

Ft. Worth, Texas.

Bad Trade Practices

To the Editor.—Truck buying in the State of California for this month is on the decline. This is a seasonal decline, however, owing chiefly to the fact that mining companies and other users in mountain territory appreciate the fact that they will have to close down shortly on account of snow in the mountains. The agricultural buying is practically over for the season, most of the crops having been moved or arrangements having been made for their transportation. Another reason for August conditions is the fact that this is our finest vacation month and many salesmen are away on their vacations.

As far as any general policy of delay on the buyer's part is concerned, we do not feel that there is such a condition. We are having no trouble financing our truck deals, and we have not canceled any of our factory orders for trucks. We have not experienced any difficulty in obtaining whatever credit we require for our legitimate business needs. I hardly think that in the State of California there is much inclination on the part of banks to discriminate against truck paper. This is a brief picture of the situation from the standpoint of this company.

From the standpoint of truck business in general, we will say that quite a number of truck distributers are not properly financed and have been selling trucks on much too small payments down, and have taken 12,- 15.- and even 18- and 20-month paper. This, of course, carries its own story and can not lead to anything but disaster. On the other hand, there are a few distributers in the state whose slogan is "Safety First" and who do not now, and never did, accept a truck deal that they did not feel more than certain was safe from a standpoint of security and that the buyer's moral risk was way above par. I can not help but feel that the difficulties of most truck distributers are entirely their own fault, for in their anxiety to make a showing for some factory they have simply cut their own throats and accepted deals that no reputable, well-managed house would even consider.

There is just one other point that I would like to call your attention to and that is the fact that truck paper is, in my judgment, a great deal more risky than passengar car paper, for the reason that when a man buys a passenger car and he falls behind in his payments his pride will prevent his allowing anyone to take the car away from him and humiliate him with his friends, while on the other hand, a great many trucks are sold to people for a specific job and, if this job fails, they haven't the same pride in sacrificing something else, in order to pay for their truck, that they would have in the case of the passenger car.

I know of one of the cleverest funding companies in the State of California which makes a positive ruling that it will not cash any dealer's paper covering the purchase of a truck unless that truck is sold to a business house which has considerable net worth and many ways of meeting its obligations other than the profits made from running the truck. The most dangerous kind of truck business, and the thing that has got most of the distributers into trouble, has been the kind where the sales department rushes out and secures a job of truck hauling and then rushes out again and secures some poor "boob" without a dollar to his name and gets him to talk some simple-minded capitalist into putting up the initial payment on the vehicle. Then Mr. Truck Buyer proudly sallies forth and, embarked upon the sea of business life, proceeds to haul on his job. Something happens to the job and the pity of it is that the job doesn't fail altogether at this point. These jobs usually hang on and prolong the misery, so that a man makes just about enough money to feed himself, and when his payments become due he can not meet them and he feels justified, and in a great many cases is justified, in going back to the distributer and demanding repeated extensions of time on his paper, basing these demands upon the fact that the distributers got him into the mess and it is up to them to get him out of it.

I really feel, as I have before stated, that any concern that keeps its house in order and does business on a strictly business basis, with due regard to security and a purchaser's moral risk, will not find its truck business wrecked whenever times tighten up. We are all too willing to lay failure on our part to some vague trouble in Wall Street or some meddlesome politicians in Washington.

EARLE C. ANTHONY, INC.,
Leon T. Shettler, *Gen. Mgr.*

Los Angeles, Cal.

No Orders Canceled

To the Editor.—There has been a considerable let-up in the purchasing of trucks in this territory, the causes of which are local and national. The failure of the strawberry crop and the peach crop had considerable to do with the lack of sales in the spring and summer. Reduction in the prices of lumber "queered" a lot of prospective sales. The general tightening up of financial conditions and the considerable agitation for less buying and more economy has had a wonderfully depressing effect on sales.

There do not appear to be any lines of business that are buying more freely than others, but the necessity for additional transportation and the substitution of new trucks for worn-out trucks are the principal causes of any sales whatever.

We have found it good business to keep a stock of trucks on hand and have always been provided with machines to make immediate delivery, and we have not found it necessary to cancel any orders we have given the Federal Motor Truck Company. We have orders with them now which are unfilled, but as we are not pressed for stock, they are possibly using trucks on our orders to supply some more pressing demands. We understand the Federal factory is behind three or four thousand trucks on order. Despite that fact special orders we sent them less than 30 days ago have been shipped.

The First National Bank of Chattanooga, with which we have our financial dealings, classifies trucks as a business necessity and extends us the same accommodation now as at any period in our seven years' handling of the Federal truck. We understand through our Automotive Trades Association that several banks have shut down on a number of local truck dealers, but it was because their sales were not made along good business lines.

R. H. HART.

Chattanooga, Tenn.

Crisis Should Help Industry

To the Editor.—Toledo, as you no doubt know, is very closely linked with the great motor car manufacturing plants of Detroit, and a great proportion of our industry is dependent upon the automotive industry for prosperity. Since it seems that this industry is affected more slowly in case of a slowing up, and seems to regain its losses more rapidly when conditions again become active, we do not feel the sudden slumps as quickly as is usually the case. Just at this time we are finding a decided inclination of the buyers to put off purchases of equipment of any kind. We are finding numerous instances where equipment is really needed but is not being bought just at this time. Nearly everyone is retrenching in expenditures. We believe this is general in all industries here, not so much because of necessity, but rather for lack of confidence as to what the future holds for the next six months.

Naturally, bank credits have had a great deal to do with bringing about this condition, but we are finding very little difficulty in financing and having financed any real legitimate business enterprise so long as it is not of a speculative nature. Banks seem willing to take deferred paper from reliable firms for normal expansion, and from a purely selfish business standpoint we are not asking them to take paper from firms which have a reputation of instability or firms which are making purely speculative expansion. We feel that good business demands that we exercise good judgment in extending credits in order to protect the present owners of our vehicles, through whatever conditions may exist in the next six months.

We do not feel that the present condition is particularly serious or will become so. Having no precedent by which to judge, American business is simply feeling its way and we are sure that most of the present business lull is due to fright more than to any other one thing and will probably be overcome in the near future. We are particularly hopeful over the future—next year's business, to be exact. We look for a steady advance of the motor truck as a transportation unit in intercity short-haul freight. We believe that this will come both because of and in spite of road conditions. We seem to be approaching a period like that when express was first originated, and believe that motor express will to a large extent speed up transportation in the same way in which railroad express did some years ago.

In the building trades we are expecting to market a large percentage of our vehicles in this territory. The majority of the road contractors are needing equipment, but did not buy this year because in Ohio road contracts were let so late that there were very few bidders and very little work has been done. This, together with next year's normal mileage of new roads, should make a very busy year for road contractors and a direct effect will be felt in the motor truck field. Construction contractors had so much difficulty in getting materials that very little construction has gone on for the past two or three years. Looking to an easing-up of the railroad situation, we believe this class of contractor will be very busy and will have to buy equipment which normally would have been bought prior to this time.

These two conditions, coupled with the natural expansion of the motor truck into more and greater fields of work—we do not think we have begun to realize the possibilities yet—should make next year a very busy one for those who weather the present business depression. On the whole, to our mind, the conditions as they now exist should, in the long run, be a fine thing for the motor truck industry. Undoubtedly they are going to mean some failures and difficult times for many of us, but it is just that that makes us look upon the present situation as being the means of bringing about a condition much to be desired, in the elimination of the "tramp" truck dealer and truck manufacturer. We have reference to those firms who do business on a "fly by night" basis; those firms who have been price-cutters and who have attempted to make a horse-trading business out of the motor truck business; those firms who have financed over-long time paper so that trucks have been sold on a "dollar-down" basis, and, in general, those firms who are continually coming and going and making business extremely hard on a basis of clean competition. This has been particularly true since the close of the war, because many manufacturers were forced to find a market for the enormous production they had attained in war contracts. We believe the benefit will be mutual, both to them and other manufacturers, if the present stringency forces them into other lines of endeavor.

We see no reason for fear, either for the present or the future, for those truck dealers

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and manufacturers who are playing fair with the public at large, but rather we feel that the motor truck is going to advance steadily, especially if we keep our heads up and sell legitimate trucks for legitimate purposes.

WILLIAM LOVE,
K. G. Mengeet, *Fght. Trans. Mgr.*
Toledo, O.

Has Increased Factory Quota

To the Editor.—Our organization covers retail sales for Detroit and Wayne County and wholesale sales for southern Michigan. The first six months of this year have been exceptionally good for us in both departments. Usually, during the months of July and August, it shows a seasonable slackness. This year, however, July was above our expectations, but the business for August has not been as good as the average for previous months in this year but will probably equal the average for the month of August for the last few years.

We are aware that the business of some local dealers has practically reached the vanishing point, but we think they are the dealers who have been depending on cartage business of the class that can only buy on a time basis with small initial payments and a long period for payment of the balance. We have never catered to this class of business. In fact, we think that much of this business, which has developed in the last year or two, should never have existed. Such time sales as we have recently made (and they have been very limited) have been financed with no more difficulty than in the past. In fact, we do not believe that there are any serious credit problems for the conservative dealer who handles good business on a proper basis.

In the last two years there have been two distinct classes of business in motor truck sales in Detroit. First, there have been the conservative business sales to reputable manufacturing corporations and business firms and to well-established cartage companies. Second, improperly financed business sales to men who were taken out of other occupations and put into the cartage business with promises of tremendous profits. It is this latter class of business that is suffering at the present time. If the motor truck business is conducted as a conservative merchandising proposition along proper business lines, just as other good business is conducted, we do not believe there will ever be any great depression, because the motor truck has been shown to be a vital necessity in modern industrial life and, as a necessity, must always be in demand.

Summing up the situation, as far as our own record and outlook is concerned, we will say that our dealers' reports through the state are optimistic for the future business in the next six months and, in consequence of this and our retail sales prospects, we have greatly increased our quota from the factory as covered by a new contract recently signed. This fact is the strongest evidence as to what we think of the motor truck business for the ensuing months.

TRUCK SALES MANAGER.
Dtroit, Mich.

Business About Normal

To the Editor.—The truck business in our territory is about normal, but the excess volume that we have been receiving has been materially reduced due to the shutting down of textile mills, reduction of output of shipbuilding plants and reduction in building operations. This company is having no difficulty in obtaining credit, although we are under the impression that others are being greatly handicapped by the banks. The buying power of the class buyer depending upon the earning ability of his motor equipment to honor payments due on such equipment is being eliminated for the reason that financing companies are having difficulty in discounting this class of paper, although we have always considered this class of business an excellent risk. Wherever factory production has been cut down we believe it has been entirely due to the resistance offered through the inability to finance the purchase of truck equipment.

GENERAL DISTRIBUTION MANAGER.
Philadelphia, Pa.

Banks Want Twenty Per Cent.

To the Editor.—The sale of motor trucks in this territory is not very brisk. There are several reasons for this, but the main one is financial conditions. In other words, the small banks do not care to handle motor truck paper. There is also a tendency on the part of the farmer buyers to hold off, as they do not feel satisfied with the price they are getting for their grain and are forming an association in Nebraska, Iowa and Kansas to hold their grain for a set price.

We think that the difficulty in obtaining credit is one of the chief reasons retarding the sale of motor trucks. We have found it necessary to cancel some of our orders for trucks.

We have not experienced any serious difficulty in obtaining credit for our business needs, as we have plenty of methods for obtaining credit for our own use, but we have had considerable trouble in trying to negotiate truck buyers' notes. We have experienced this trouble on account of the discrimination of bankers against motor truck and passenger car paper. At the present time in some of the territory that we control a man could not take a $5.00 gold piece and borrow $1.50 on it. For example, this came to our attention several days ago when we had a certificate of deposit in the amount of $1500.00, drawing 5 per cent., and wished to discount it at 3 per cent., which would make the certificate draw 8 per cent. We had this certificate up with several of the leading banks in this territory and the best offer we had was a proposition which would net the banker 20 per cent. discount. You can very readily see how this is retarding motor truck sales.

WESTERN MOTOR CAR CO.,
W. H. Murphy, *Mgr. Truck Dept.*
Omaha, Neb.

"Prospects" Delay Buying

To the Editor.—There has been a very marked tendency for the past sixty days among prospective purchasers of trucks to delay placing their orders, and the business consequently has been quite dull. This dull condition does not seem to be confined to any one line of business but affects them all. It seems to be caused by the general stagnation of business, which naturally dictates to the business man the advisability of going slow with his purchases, and among some "prospects" we find the idea prevails that truck prices will be lower in the near future.

We do not think that the difficulty in obtaining credit is interfering with purchases to any great extent so far as we are concerned, as we have had no difficulty in getting our sales financed, but there is a tendency on the part of the finance companies to investigate their risks a great deal more closely, and there is no doubt that quite a number of the truck dealers who are not very strong financially are having considerable difficulty in financing their sales. We do not believe there is any definite policy or discrimination against such paper on the part of the local banks, but there is a general restriction of credit and, of course, the automobile business participates as well as any other.

So far as really new business is concerned, i. e., new individuals going into the trucking business, there is no encouragement for such movements at this time, as the present dull conditions in this city make it impossible for truck owners to find constant work for the trucks which they already own.

To sum it all up, we do not think the truck business is any duller than any other but, naturally, when business generally is dull, the transportation of goods is very much lessened, and consequently, the demand for trucks.

MANAGER.
Philadelphia, Pa.

Excessive Trade-in Values

To the Editor.—For the past ten months motor truck sales in this territory and eastern North Carolina have been very slow, due to the stringent local money market, which seems to have been somewhat worse than in many other sections especially during the early spring, and to labor difficulties resulting from a more or less stimulated market during the war and readjustment period immediately following the armistice. The only people purchasing trucks, as a general thing, are those who are adding additional equipment or trading off used and worn-out equipment, for which they are expecting exorbitant prices and, unfortunately, securing them from some dealers who have not yet been in the business long enough to appreciate the pitfalls of excessive trade-in values.

The road conditions in this section of the country are very poor and consequently the development of the motor truck as applied to intercity and farm hauling has been very slow and difficult, and we believe a very material increase in sales of trucks will take place as soon as main thoroughfares and city roads are improved and those under construction completed.

Many well-established business houses have moved from inability to make admittedly needed improvements and expansion due to the difficulties of securing building material and loans to make these needed improvements. Nearly every failure among car and truck dealers during the past three months is an indication of either their poor business methods or the new sales they made, or a combination of both.

The use of motor trucks in this section is comparatively limited. They have never been used in any quantities except during the last three years, and consequently many purchasers still consider each and every vehicle offered them on practically the same grounds regardless of the standing of the dealer or his facilities for giving service and supplying parts.

E. E. SPRINGER CO., INC.,
E. A. Haskins, *Vice-Pres.*
Norfolk, Va.

Roads Will Aid Business

To the Editor.—The truck market, insofar as heavy trucks are concerned, has been very slow for several months. In light trucks, such as the Reo Speedwagon which we handle here, there has been a very good demand and business in this line seems to look even better than it has in the past.

One of the reasons for a lesser number of truck purchases is due to the fact, in our judgment, that banks in this locality are attempting to deflate what they call an inflated credit. They claim that the Federal Reserve Banks have advised them to close down on automobile financing and this, combined with the fact that more cars were arriving in this territory than could be absorbed, is partly responsible. The problem of financing truck paper is somewhat different from financing passenger-car paper. The theory upon which bankers work is that a truck which is put into use to-day and goes into hard service, such as interurban delivery or road work, depreciates in value so quickly that it is not a good risk from an investment standpoint. With us, however, our connections are such that we have no difficulty in financing our paper, although many of the dealers are having much difficulty.

In Oregon there are several things which will contribute to an even wider use of the motor truck than at present and one of the most important of these is our present road-building program. Our present program provides for the expenditure of $20,000,000 for the construction, improvement, and hard-surfacing of our main trunk and lateral highways. Naturally, when these roads are nearer completion than at present, they will add impetus to the truck business, and should be an important factor in helping to improve trade in this line.

We can not say what lines of business are most free from a desire to hold back. We think that all lines are endeavoring to go forward upon conservative lines and are not trying to develop beyond a point which they can not actually see. Our chief industry in the State of Oregon is lumber, and next to this come wheat raising and livestock. The market of all three of these commodities is at present in a rather uncertain and unsettled state, and it is difficult to determine exactly how the coming month will affect

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our local conditions. To offset this condition, however, it might interest you to know that the export business out of the port of Portland for the seven months ending July 31, amounted to over $60,000,000, as against a negligible amount for the same period in 1919. With the establishment of extensive terminal facilities here we have every reason to believe that we can look forward to an extensive foreign business. This in turn will mean an improvement of business in other lines of endeavor, which will accrue directly to the benefit of dealers in trucks.

NORTHWEST AUTO CO.,
Henry R. Hayek,
Director of Sales Extension.
Portland, Ore.

Buying Splendid; Prospects Good

To the Editor.—We are of the opinion that the value of the future of the truck business is inestimable. We have the greatest confidence that business will pick up just as soon as financial conditions adjust themselves.

Active truck purchasing in San Francisco is splendid. Prospects are very good. The only drawback that we know of is the cut-price trucks on the market. We are operating a strictly one-price house, whereas some of our competitors are offering long discounts in order to turn their merchandise into cash. We find this hard competition. They are getting out of the truck business and will dispose of their stock regardless of price. This condition has been brought about a good deal by the fact that the financing companies, who finance truck deals, find that the dealers are unable to move them so, in order to dispose of them, they put them on the market at very low prices. The consumer wishing to buy on terms finds it rather difficult to do so because the finance companies and the banks are insisting on one-half cash and the balance in equal monthly payments not to extend over ten months.

We have found it necessary in many cases to cancel factory orders on trucks for dealers, the reason being that the dealer was unable to finance himself through his local bank. The bank's excuse was that it must reserve its capital to take care of the crops. We do not believe there is any definite policy of discrimination against automobile paper on the part of any of the banks. The only thing that we can ascertain is that the banks can make a better rate of interest on their money by sending it East, and we find in a number of instances that they are refusing truck paper and taking passenger car paper.

We have had no difficulty in obtaining credit for our business, that is, where it is referred to retail business. We can say this of Seattle, Portland, Oakland, San Francisco, Los Angeles and San Diego where we have branches. Conditions have been a little more severe in Portland and Seattle, where the banks do business along different lines than in other territories. You understand that they insist upon the automobile business being financed on time sales by having one-half down and the balance to be in equal monthly payments not to extend over six months and they will not take paper of any kind on second-hand trucks, passenger-cars or trailers. In Seattle there have been a great many cars and trucks thrown on the market by the financing companies who have found it necessary to take them over. This, of course, has had a bad effect on the industry there. However, I believe that this is going to work out for the best interests of the business, as the factories are going to hestitate a long while before they force a lot of goods on the dealers who find it necessary to warehouse them the minute the banks tighten up.

We feel that this present condition is going to show the banks and bankers of the country that the automobile industry is on a pretty sound footing, and we positively believe that there is not another business in the country that could stand such restrictions as have been suddenly placed upon automobile men and survive as we have. This tightening up of financial conditions will also teach the automobile distributers and dealers that they must get better acquainted with their banks and keep the banker more fully advised as to their true conditions. We look forward to seeing the industry back on its feet again and running along normal channels within the next six months.

WILLIAM L. HUGHSON CO.,
W. L. Hughson, *Pres.*
San Francisco, Cal.

To the Editor.—Motor truck sales conditions for high-grade trucks are very good in northern California. Truck buyers are learning to differentiate and are showing a preference for quality trucks. There has been a noticeable falling off in the sales of low-price, lesser known trucks. This is largely accounted for by the fact that only really good trucks can withstand the hard usage to which they are subjected on San Francisco streets and grades and in the rural districts and provide constant operation at minimum upkeep cost, which is essential.

Truck buying is slow only as it relates to prospective purchasers who are not well financed. Dealers who insist on getting a reasonable payment down and show discretion in accepting used trucks are enjoying sounder business, but not the same quantity that could be had if trades were more liberal and down-payments less. There is no policy of delay on the part of buyers where an actual need for the truck exists. Trucks are bought in most instances with the expectation that they will be paid for out of their earnings. This necessitates that purchasers can see regular employment at a profitable rate ahead of them. The larger commercial enterprises are freest from a desire to hold back. They know what a truck does for their business and buy it because they need it.

Credit conditions retard sales where the dealers are not in position to handle their own paper. Where the banker has been sold in the first place on the advisability of lending financial support to a truck line of established prestige and reputation, only slight resistance is encountered.

We are not canceling any orders for trucks, as we feel there will be a demand for all we can get. We do not experience any difficulty in obtaining credit or in negotiating buyers' purchase notes. We are not experiencing discrimination but we know there are truck dealers who are. Banks are beginning to recognize the essential character of motor trucks, but it is the responsibility of the truck, the dealer and the factories that interests them most.

In setting up anything for national guidance, it is our position that the dealer must sell to the banker the merits of his own organization, his truck and his factory before he can have any reason to expect financial support. Let the dealer put himself in the banker's shoes and apply his own judgment.

MACK INTERNATIONAL MOTOR TRUCK CORP.
Roy H. Compton, *Mgr.*
Los Angeles, Cal.

Freight Rates and Road Costs

The freight rate increases authorized recently by the Interstate Commerce Commission will amount to 40 per cent. in eastern territory, 35 per cent. in western territory and 25 per cent. in southern territory. These new rates were effective on September 1. Since in many cases road-building materials have freight as the largest factor in their costs, the new rates will have a very marked effect upon costs in the road-building industry.

British Buy in General Motors

The Explosive Trades, Ltd., of London, England, has acquired a $25,000,000 share in the General Motors Corporation of America, according to advices received by the Department of Commerce. The British company is one of the largest trading concerns in Europe.

Kissel Capital Increased

Capital stock of the Kissel Motor Car Company has been increased from $1,000,000 to $2,100,000 in order to take care of the growth of business, extensions to the plant, and financing required for increased production.

Remarks on Farm Trucks

(*Continued from page* 32)

the adjustments. Most farmers now owning motor trucks are familiar with the different parts and know their proper working conditions and failure to keep them in condition to prevent some serious breakdown or costly repairs is due in nine out of ten times to neglect.

Too many trucks are traded off before they have returned their cost in work and only because of their improper care are they brought so soon to the condition where they are not to be depended on. No instructions can be written of sufficient interest to create such an impression on the truck operator's mind that he will not sooner or later disregard such rules as he at the time of purchase intended to follow. Only when a farmer thinks as much of his truck after a couple of years' use as he did the day he first drove it home and exercises an equal amount of care will he be able to receive practical results. A coat of mud may not apparently affect the wearing qualities, but it quickly absorbs the necessary grease from the springs, the steering-rod, bearings and like places. The brake drums and bands are allowed to grind it between their close-fitting surfaces and sooner or later all these parts show undue wear. Neither does one have the ambition to examine or determine the condition of the inaccessible parts or retain the pride to keep them in attractive trim or even presentable order after once the mud has been allowed to bake over the exposed parts for a week or so.

A truck does not recuperate while standing over night as does the horse, and neither does it know when its limit of capacity is reached. These two unfamiliar conditions to the long accustomed teamster are often the direct cause of serious mishaps in motor truck transportation.

I have learned that knowing the machine's conditon is the one point for successful operation. A part improperly working receives my attention and is studied, even at times while I am at other occupations, the same as I would study the disease or injury of a horse or other stock. Only such attention keeps a truck in service ready for immediate use and only by reasonably careful supervision of operation can we expect the most from it.

Life of Electric Trucks

Interesting comment on the expected life of electric trucks is contained in a report from abroad to the effect that an English borough has been granted a repayment period of fifteen years for a loan in connection with the purchase of an electric truck for refuse disposal. This establishes something of a record in Britain, where the Ministry of Health has allowed a maximum time of but seven years in the same class of work. The period granted to steam and internal-combustion vehicles is five years.

Further extension of its building operations and plans for production in the near future are revealed by the Northway Motors Corporation, Boston, Massachusetts. Truck production will be increased 250 per cent. The factory now employs upward of 700 persons.

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Truck Safe in Glass Hauling

H. A. R. Clark of Detroit has been hauling plate-glass for windshields from the factory of the Edward Ford Plate Glass Company in Rossford, Ohio, to the plant of the Fisher Body Corporation in Detroit. He uses a 2-ton GMC truck and a 5-ton Highway semi-trailer, leaving Detroit about 3 A. M. and arriving in that city about 5 P. M. the same day, covering a distance of 136 miles and carrying average loads of more than 7½ tons. The load illustrated in the picture weighs 16,720 pounds and represents Clark's eighty-second trip. Between October 6 and February 4 his outfit traveled 11,152 miles and carried 1,257,840 pounds of plate-glass worth nearly $500,000 without breaking a glass.

Clark's 2-ton GMC truck and 5-ton Highway trailer hauling 16,720 pounds of plate glass.

Will Urge Snow Removal

As a first step in the campaign for snow removal during the coming winter season, officials of the Bureau of Public Roads have asked the Highways Committee of the National Automobile Chamber of Commerce to obtain data from its members, listing those highways which will carry the heaviest drive-away traffic. All members have, therefore, been requested to send a list of such routes to the Highways Committee together with approximate figures, if obtainable, of the amount of such traffic. A bulletin will then be prepared by the bureau of Public Roads urging concentration of effort on these highways and also calling attention to the need for doing as much of this work as may be possible with the funds at hand.

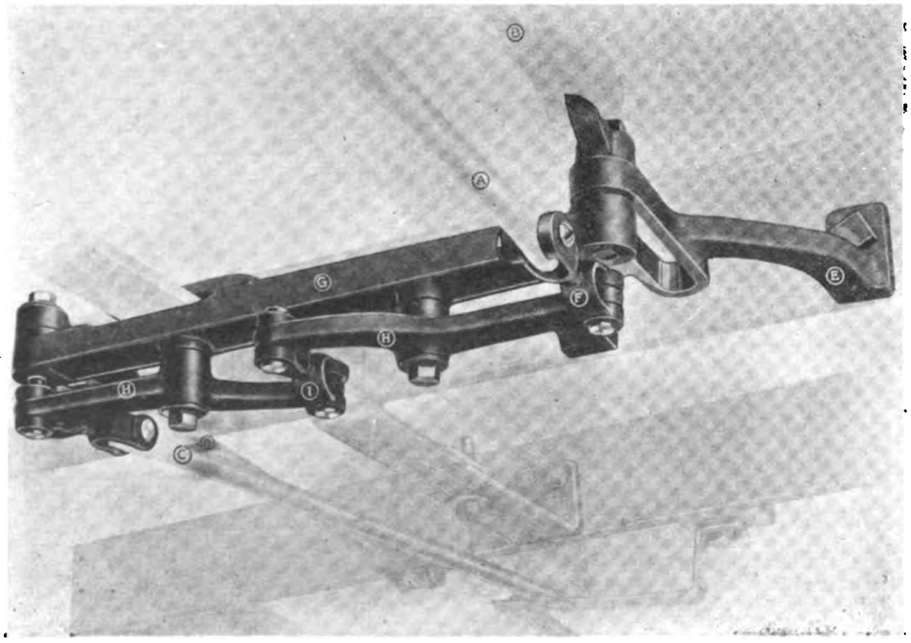
At a conference with officials of the bureau arrangements were made to send an engineer out through the Lake district and other congested points to make a survey of snow removal requirements both from the standpoint of the drive-aways and from that of a general use of highways in winter.

Trailer Brake Equalizer

A new device for equalizing the action of trailer brakes, designed to make positive the operation of the brakes whether the trailer is empty or loaded, whether it travels on level roads or on hills, over a straight or a curved course, has been announced by the Raybestos Company, of Bridgeport, Connecticut, maker of Raybestos brake lining and clutch facing. The new brake is operated by the driver of the motor truck to which the trailer is attached by the same action by which he applies the truck brake, and it is arranged so that a train of trailers can be equipped and operated in the same manner.

The equalizer consists of a supporting bracket (shown at *E* in the picture), an equalizing arm *G* on which are mounted two bell-crank levers *H*, the usual clevises for connecting with two pull-rods (*A* and *C*), and two distance rods, one to the trailer axle spring clip (*B*) and one to the truck's axle or frame (*D*). The supporting bracket can be attached to the rear end of the truck frame or to the front end of the trailer frame. The former method is advisable where a single trailer is always used with the same truck. If the same trailer is to be drawn by different trucks, the supporting bracket should be mounted on the front end of the trailer and connected by a hook with the pull-rod (*C*) from the truck brake. The supporting bracket is provided with a horizontal slot wherein a stud in the end of the equalizer bar (*G*) is free to play back and forth. Sufficient freedom is allowed for the truck and trailer to round any curve without interfering with the operation of the trailer brake. One of the distance rods (*B*) holds the stud always at the same distance from the trailer. The other end of the equalizer bar is held at a fixed distance from the truck by a similar distance rod (*D*). The equalizer bar carries, mounted on separate vertical pivots, two bell-cranks which are connected at their inner ends by a double-yoke link (*I*). The outer end of one bell-crank is connected by a clevis to the truck brake pull-rod (*C*); the outer end of the other bell-crank is attached in the same manner to the trailer brake pull-rod (*A*). Through these means pressure on the truck brake pull-rod is transmitted to the trailer brake pull-rod.

Patterns and jigs have been completed and the company is ready for quantity production.



The Raybestos trailer brake equalizer.

British Disturbed by Ford Prices

English motor vehicle dealers, who have experienced difficulties in making deliveries to their customers owing to the shortages in materials and labor, are deeply concerned over the recently announced reduction in the prices of Ford trucks and passenger cars. The price of the former has been reduced $250 and that of the car $125, bringing the prices to the level of the end of last year. As a result dealers are having trouble with some customers, who have gone into court and taken advantage of the non-delivery penalty clauses in their purchase contracts, the causes being usually decided in favor of the buyer.

Locomobile Quarterly Dividend

At a meeting of the board of directors of the Locomobile Company, held September 1, the regular quarterly dividend of 1¾ per cent. on the preferred stock was declared. This will be payable October 1 to stockholders of record September 15.

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Correspondence

General Correspondence, Criticisms, Suggestions, and Discussions Concerning Any Subject of Interest to Those Who Design, Manufacture, Sell or Use Commercial Motor Vehicles, Their Parts or Accessory Equipment, Are Solicited

Believes Cut-Outs Essential

To the Editor.—The writer has noticed the resolution of the National Automobile Chamber of Commerce in the July issue of POWER WAGON regarding the use of cut-outs on motor trucks, and we quite agree with it in its effort to abolish the *abuse* of the muffler cut-out. We do not manufacture or sell our cut-out for the purpose of making a noise on the streets or roads, but broadly advertise the use—not the abuse—of the cut-out as a necessary equipment for keeping the motor properly "tuned up." The muffler cut-out properly used to "tune up" saves time, gasolene and general wear and tear, and makes the motor function more satisfactorily for the owner and driver. Other cut-out manufacturers as well call the attention of the public to the fact that the use of the cut-out is for "tuning up" purposes. Judging from the quantity of cut-outs sold, it is the consensus of opinion of motorists, truck drivers and mechanics who repair cars that muffler cut-outs are essential in order that the motor of the vehicle may be properly "tuned up." The annoyance of the *abuse* of the cut-out can be easily corrected by applying a cut-out that can be opened or shut from underneath only, and not operable from the driver's seat, which type of cut-outs we can supply if necessary. This would eliminate the annoyance occasioned by the *wrong use* of the present type.

N. A. PETRY CO.,
N. A. Petry, *Pres.*
Philadelphia.

Overloading Motor Trucks

To the Editor.—Prompted by recent propaganda alleging that overloaded motor trucks were mainly responsible for damage done to highways, we investigated local conditions and have discovered some very interesting facts.

Covering a period of 10 days, those trucks which were seen to be overloaded and overspeeded were recorded, there being a total of 31 such trucks noted during that period. Twenty-two were overloaded and the remaining 9 were overspeeding. Happily none of the overloaded trucks were traveling at more than a moderate rate of speed. While these 31 trucks represent a very small portion of the total number operating in the city, it is true that some truck owners are at fault in this respect.

The worst case of overloading discovered was that of a 5-ton dump truck carrying 11 tons of scrap steel. What can that owner gain by burdening a 5-ton truck with an 11-ton load? True, his present profits may show an increase without any apparent damage being done to the truck, but such constant overloading will soon result in an increased operating expense and a decided shortening of the truck's period of usefulness. Most motor trucks are designed to carry a reasonably greater load than indicated by rated capacity. This is done as a measure of safety and should not be taken advantage of by the owner. The proper size of tire necessary to handle a capacity load is determined by skilled engineers and when trucks are overloaded is it any wonder that tires go to pieces or that trucks are charged with damaging pavements?

Just as a horse breaks down from over work, so will the motor truck become incapable of doing full duty after being subjected to constant overloading. There is hardlly a single part that does not suffer when the truck carries an excessive cargo. Bearings, wheels, axles, springs, frame and transmission become prematurely worn and in the end the owner pays for his bad management in diminished truck life. Local ordinances regulating motor trucks will usually take care of overspeeding but the truck owner has left to his own judgment the load he will carry. No truck manufacturer will encourage overloading and no owner should indulge in it. Public opinion is in favor of the truck and will remain so as long as we coöperate in preserving public highways.

PARKER MOTOR TRUCK CO.
E. G. Dorsch, *Service Mgr.*
Milwaukee, Wis.

Give Us Credit for Trucks

To the Editor.—Billions for railroads; not one cent of credit to truck makers and dealers: Sixty miles of coal cars, loaded, jammed in an endless conglomeration, near Baltimore, according to a recent press report. And yet we wonder why there is a coal shortage! At a time when the nation needs every truck that can possibly be built in every factory of the nation, we are faced with such a situation.

Unending delays and jams in freight transportation, and yet plenty of room on the highways of the nation for millions of tons of freight, if we only had the trucks to move it. Carriers of all kinds cry for trucks. Farmers are more "sold" on trucks for their farm now than ever before in the history of the industry. Some said recently that the State of Texas alone could absorb every truck and every tractor that the nation could produce, that is, that this tremendous Lone Star empire has the potential capacity to absorb this output.

And yet it seems that bankers in every section of the country are refusing credits to truck dealers and tractor dealers and truck and tractor makers. These bankers intimate that their action is based on the action of the Federal Reserve Board and the board in turn says it may be the regional directors doing it, but it isn't the board. The regional directors pass the buck back to the bankers. And the bankers are now getting 7, 8 and even higher percentages for what money they put out, passing the buck back to the Federal Reserve Board in justification. It's a merry game, gentlemen, but it is not getting us anywhere in solving the H. C. of L.

Meanwhile the truck industry and the tractor industry, both as essential to the nation as bread and meat to the individual, may languish, slow down or even die. What do the financiers (?) care about this? Not much, evidently, and it behooves us to stir up the dead bones behind the bronze grills and the mahogany desks in Washington and throughout the entire nation. But where is the club? Politics? Maybe—maybe not. But we of the manufacturing industry *must* get that club. If not now, oh what a wicked whack we will swing eventually!

MIDWEST ENGINE CO.,
Lon R. Smith, *Gen. Sales Mgr.*
Indianapolis, Ind.

A Steel-and-Concrete Roadway

To the Editor.—Inasmuch as general knowledge is to the effect that there are no roads which successfully withstand heavy motor trucking, I beg to submit a possible construction. The natural surface for roads is a flat or plane one, but drainage of all roads requires convexity. It is generally said that the life of the best concete surface is five years on the average. Concrete can not be resurfaced with concrete, therefore such roads are not permanent. This makes them excessively costly. Using the usual foundation of a concrete road and the regular, or even more convex, surfacing, lay heavy 14-inch I-beams crosswise at intervals of 2 feet, sunk in the usual convex concrete surface to about one-half their height. On these cross beams lay inter-engaging, perhaps dovetailed, 2-inch rolled-steel plates, 2 feet square, perforated with ½-inch holes. The plane surface makes a safe, natural, economical, high-speed motorway; the perforations are self-cleansing and self-draining, allowing the rain to run through to the regular convex concrete surface a few inches below.

Such a national steel motorway between the largest cities would set an example of practically indestructible road-building that would be of the greatest economic value. What would then be the limit of motor trucking?

EDWARD AARON BANSCHBACH.
Chicago, Ill.

Garford Enlarges Plant

The Garford Motor Truck Company, Lima, Ohio, has awarded a contract for the erection of a $250,000 office building, which will be erected during the fall. The company also contemplates a number of additions to its plant.

G. M. Graves has been made assistant sales manager of the Stewart Motor Corporation of Buffalo. He was formerly connected with Pierce-Arrow.

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New N. A. D. A. State Bodies

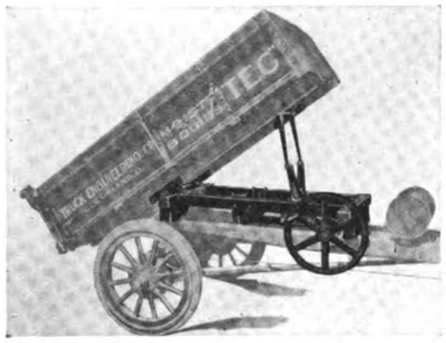
In Portland, Oregon, the Oregon Automotive Dealers' Association has been formed and affiliated with the National Automobile Dealers' Association. M. O. Wilkins, state vice-president for Oregon of the N. A. D. A., has been made president of the local body. The Washington State Automobile Chamber of Commerce, of Seattle, the New Hampshire State Dealers' Association, and the Alabama State Dealers' Association have become affiliated with the national organization. Other affiliation movements are pending in Massachusetts; Sioux Falls, South Dakota; Cincinnati, Ohio; and Sacramento, California. Local organizations in Gary and Hammond, Indiana; Erie, Pennsylvania; Binghamton, Elmira, New York and Ithaca, New York; Bridgeport, Connecticut; and Greenfield and Springfield, Massachusetts, have voted to affiliate.

American Bosch Sales

The supposition has been rather general that the accessory companies, such as American Bosch Magneto Corporation, had suffered a very severe curtailment of business, estimates placing it at 50 per cent. and higher. To date, this surmise has not been true with respect to American Bosch. The Springfield company is curtailing at most 20 per cent. from the peak of output in early summer. In other words, it is turning out between 32,000 and 33,000 magnetos a month—August shipments were 33,000—against a high mark of 40,000 and 5 per cent. to 8 per cent. of this letup is seasoned, as operations usually decline somewhat from August on in keeping with the similar tendency usually manifest in the motor industry as a whole with the opening of a new business year. Normally, nearly 90 per cent. of the Bosch company's business is with manufacturers of trucks, tractors and stationary engines, and of late it has been roughly 75 per cent.

Hand Hoist for Ford Trucks

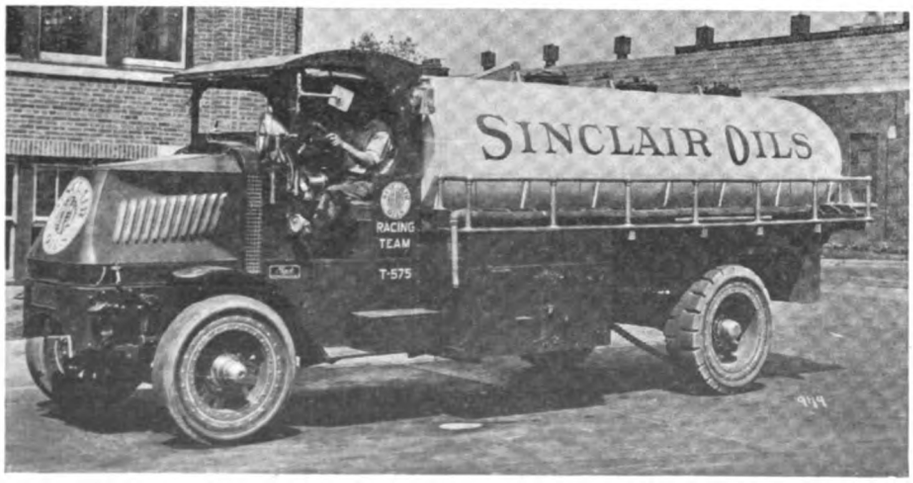
The Truck Engineering Company, of Cleveland, Ohio, is building a type of hand hoist and tipping body known as the TEC, specially designed for use on Ford chassis. The hoist comprises a horizontal cross-shaft operated by a hand-wheel hung at the right of the chassis frame just back of the driver's seat. Attached to this shaft is a small bevel-gear, which rotates a driving worm at a reduction ratio of 3½ to 1, the latter driving a worm-gear at a reduction ratio of 28 to 1, the total reduction being 98 to 1. Turning of the hand-wheel raises the body to a maximum dumping angle of 40 degrees by means of toggle levers actuated by the worm-gear, and returns it to its normal position of rest without reverse action by the operator. The entire mechanism is mounted on a wood subframe, which can be placed on the chassis frame and attached to it by six bolts. It occupies no space behind the driver's seat and requires only 11 inches space between the top of the frame and the body floor. Standard equipment includes either a steel or wood body of 1-ton capacity, provided with a double-acting tail-gate and removable sides, at a cost of $350.



The TEC hand hoist and tipping body.

Tire Stocks Are Ample

There is at present a full 33⅓ per cent. of excess capacity in the country for the manufacture of fabric tires. The consuming public has been educated up to the better value in cord tires so that most of the companies, notwithstanding the fabric tire conditions, are unable to supply all cord tire demands. In general it appears that tire manufacturers over-estimated the probable tire consumption of this year. It was originally placed at 45,000,000 tires, this estimate being based on four tires per car in use or to be manufactured. Incidentally five tires used to be the allowance per car. Largely because of superior quality of tires manufactured to-day compared with a few years past and possibly because of curtailment of traveling in the West due to the gasolene shortage it is believed the average per car will not be much over three tires. And the result is that 37,000,000 tires is now a closer estimate of this year's consumption.



A 7½-ton Mack chassis, fitted with Sewell wheels and Kelly-Springfield tires, for supplying fuel to racing teams.

Oil-Tank Truck Specifications

(*Continued from page 35.*)

keep up an ample discharge reaction in the battery.

A number of truck fleet superintendents are of the opinion that a truck driver should not be allowed to carry a set of tools with which to try to make repairs and perhaps do more damage than they do good. On the other hand, others maintain that the driver should not only have the tools but should be given a complete course of instruction in their use in order that he can make the necessary road repairs rather than send in a call for help. My experience is that it is largely a question of what system is employed in the repair department and what the facilities are for periodical inspections, and also on the class of men employed as drivers. At all events I believe the tools and tool-box should be furnished with the chassis and then, should it be deemed advisable, the box can be kept locked.

Under the head of "drawings" it has been specified that the manufacturer should furnish all detailed information concerning the parts which are understood to constitute the chassis. This, as well as the details of the special equipment, should be carefully analyzed by the purchaser. If he is not a competent judge, he should secure the opinion of some one who is thoroughly versed in these matters.

He should also make a careful study of all the parts of the chassis, including the frame, motor, cooling system, oiling system, transmission, universals, differential, final drive and brakes, to determine definitely that they are competent to do the work for which they are bought.

The dimensions required are absolutely essential in order properly to design the tank or other body so as to distribute the load properly, and, without them, it is almost impossible properly to design truck garages, driveways, truck loading racks, warehouses, loading platforms and other structures which will be used in connection with the rolling equipment. In other words, the entire plan of operation should dovetail together perfectly and the rolling equipment plays a very important part in the success of this plan. It is almost next to impossible properly to order repair parts unless all the information asked for under the head of "drawings" in the specifications is given.

I have on several occasions requested information of this character in connection with the purchase of trucks and have in nearly every case had a great deal of trouble in securing it and in one or two instances have met with flat refusal. The truck manufacturers and salesmen should realize that this is a necessity to the oil company and be prepared to furnish it, and evidently they are beginning to realize it from the improvement that has been shown in the past year and a half.

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Hang On, Everybody!

A faint ray of light may now be seen on the horizon. You are leaving in the background the worst time in the history of the truck game. Bankers are beginning to get wise to the fact that truck paper is all right.

Why?

Horses are gone, man power is limited and business requires speed. This makes Trucks just as essential as Railroads and Money in putting Food into the mouths of the people.

Early this fall crop movement will be financed—then the money flood gates will open up. So grit your teeth, keep a stiff upper lip and fling the white feather into the discard. Appearance and tenacity of purpose win the day.

Smith Wheels stand unassailable.

SMITH WHEEL INC
SYRACUSE, N.Y. U.S.A.

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Apex District Managers

The Hamilton Motors Company, Grand Haven, Michigan, announces the appointment of several new district sales managers. H. H. Brown will have charge of the district comprising western Missouri, Illinois, Indiana, Ohio and Kentucky with headquarters at Chicago. He was formerly assistant to the vice-president of the Studebaker Corporation and later district sales manager of the Four Wheel Drive Auto Company. To Walter A. Murphy, formerly with the FWD company, has been given Michigan, Wisconsin, Minnesota, Iowa, North and South Dakota, Kansas and part of Missouri. His headquarters will be in Chicago. L. R. Hunter has been transferred from the company's New York office and assigned to the territory embracing North and South Carolina, Georgia, Florida, Alabama and Mississippi with headquarters at Atlanta.

Alwards Will Sell Autocars

C. F. Alward, for several years advertising manager of the H-O Company, of Buffalo, New York, and his son, Francis Alward, formerly a salesman for E. T. Parkes, the veteran Buffalo dealer, recently formed the Alward Motor Corporation for the exclusive sale of Autocar trucks in Rochester, New York. They have opened a showroom and service station at 261 Central Avenue. This is equipped with a complete supply of parts and expert mechanical assistants in order to give complete service to all Autocars in the territory. In addition to the two principals in the business there are two salesmen who are covering Rochester and outside territory. Immediately after opening they got busy on the county fairs in their territory and have covered all of them with conspicuous and effective exhibits of Autocar motor trucks.

New FWD Dealers

The Four Wheel Drive Auto Company of Clintonville, Wisconsin, has appointed the following new dealers: The Lambert-Jones Motor Company, Oklahoma City, Oklahoma, has been given a territory embracing Oklahoma and a part of Texas. The Ballard-Tait Sales Company of Brunswick, Georgia, will cover the greater part of that state. The Rennoc Sales & Service Company, Philadelphia, will distribute FWD's in Delaware and portions of New Jersey and Pennsylvania, while the Talbot-Miller Motor Company of Baltimore has contracted for all Maryland except three counties. Manbeck & Suloff are new distributers at Mifflin, Pennsylvania.

Charles W. Hatch Is Dead

Charles W. Hatch, for many years connected with the old Perfection Spring Company in Detroit and later general sales manager of the company, died recently in Philadelphia. Three years ago he left the Perfection company to become sales director of the Parish & Bingham Manufacturing Company, and was later identified with the Commercial Car Unit Company.

Spicer Earnings Larger

The Spicer Manufacturing Company shows net earnings for the 6-month period ended June 30 of approximately $1,080,000 after all deductions. This sum is almost equal to the company's earnings for the entire year 1919, when they amounted to $1,373,382. Operations at the Detroit plant, the Parish Manufacturing Company, are said to be on the basis of 40 per cent. of normal and those at the Salisbury axle plant on the basis of 70 per cent. of normal.

Tower Capital Now $2,500,000

The fourth annual meeting of the stockholders of the Tower Motor Truck Company, Greenville, Michigan, was attended by the largest number of stockholders ever present. In addition to the regular business, including the election of a board of directors, it was voted to increase the capital stock from $500,000 to $2,500,000. Material is being assembled for an addition to the buildings, which will be 60 by 100 feet.

Goodyear Business Increases

During the nine months ended July 31 the sales of the Goodyear Tire & Rubber Company of Akron, Ohio, were $162,000,000, or within $7,000,000 of the total sales for 1919. By the end of the company's fiscal year, October 31, it is expected that 1920 sales will reach $216,000,000. Recent sales are said to be back at normal figures for this time of the year.

U. S. Rubber Will Double Output

The United States Rubber Company, New York, is prosecuting plans which, by the end of next year, will have doubled the company's 1919 tire-making facilities. Steady production throughout the year, rather than high-pressure output for a season followed by an enforced slump, is part of the concern's manufacturing policy.

Will Make Truck Parts in Alma

The Truck Parts & Foundry Company has been organized at Alma, Michigan, with a capital stock of $12,000, to take over the plant of the Western Caruburetor Company, and will begin operations within 30 or 60 days. Henry H. Soule, Charles O. Ward and Harley Williams are the principal stockholders.

Ruggles Forms New Truck Company

Frank W. Ruggles, formerly president and general manager of the Republic Motor Truck Company, of Alma, Michigan, has formed a new concern to manufacture motor trucks. The company will be known as the Ruggles Truck Company, and will have offices at Alma, and London, Ontario.

Bruswitz Heads Reliance Truck

A. G. Bruswitz has been appointed president and manager of the Reliance Motor Truck Company, of Appleton, Wisconsin. Mr. Bruswitz, who was formerly county highway commissioner, has been a stockholder and director of the company since its organization.

CLASSIFIED ADVERTISING

FOR SALE — By the Kentucky Lumber Company, Burnside, Ky. 2—Wickes Patent Vertical Water Tube Boilers, 250 H. P. each, 150 lbs. pressure; arch top, Dutch oven fronts and all necessary valves and fittings.

$10,000 SALESMAN

We have room for a few more high grade salesmen; preferably with experience in the automotive industry. Commission basis only. Factory support. We need the type of man who earns $10,000.00 as a minimum. Give full particulars of experience, present connection and photograph. Address P. S., care "Power Wagon," Chicago, Ill.

Service Truck Convention

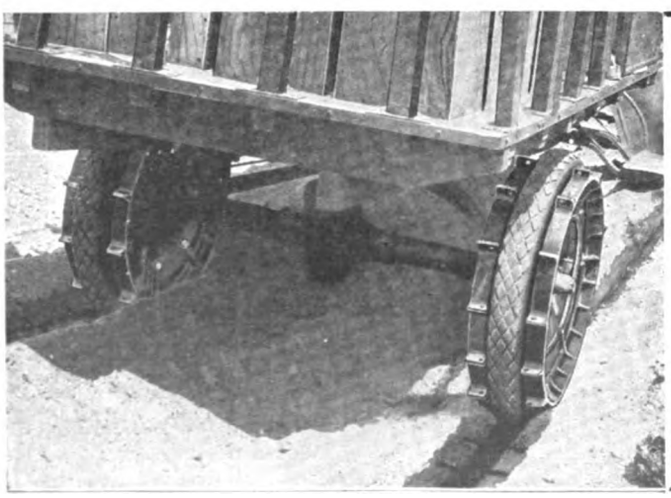
A convention of the division sales managers of the Service Motor Truck Company was held in Wabash, Indiana, on September 17 and 18. Sales managers representing every division of the United States were present. All division men report that truck sales are now being made in greater volume than at any time during the past two months. The main point under discussion was means to help dealers in their resale work. The factory does not consider that it has made a sale when the truck is sold to the dealer, inasmuch as the sale is not completed until the truck is delivered to the ultimate consumer. To this end a greatly increased advertising schedule has been laid out, together with plans for dealer follow-up work.

Maxwell-Chalmers Organization Changes

During a recent meeting of Maxwell-Chalmers distributers at the factory in Detroit it was announced that C. C. Hanch had retired as general manager and that A. E. Barker, formerly of the Dodge Brothers sales organization, had been made general sales manager. The meeting was addressed by Walter P. Chrysler, vice-president of the Willys Corporation, who was recently appointed chairman of a managing committee by financial interests supporting the company.

Hubbs Joins Grant Company

The Grant Motor Car Corporation, of Cleveland, has secured George C. Hubbs, until recently assistant general sales manager of Dodge Brothers, as vice-president and general manager. He has acquired a stock interest in the Grant company and will assume direct control of the concern's sales work.



Sell Easily on First Demonstration

A demonstration of the pulling power of Foley Traction Rims on soft roads, or in sand and mud, will create a sale to every truck owner who has had trucks stuck in impassible spots.

Foley Rims do not come into play until soft places are encountered. THEN THEY PULL!

Sold only through dealers—A few more live-wire dealers wanted.

Made for every make of truck on the market, whether equipped with pneumatic or solid tires.

Showing Ford One-Ton Truck fitted with Pneumatic Tires, and equipped with Foley Traction Rims, two on each rear wheel. Price—$50.00 per set of four, F. O. B. Mpls.

FOLEY TRACTION-RIM COMPANY, Inc.

827 Hennepin Ave. Minneapolis, Minn.

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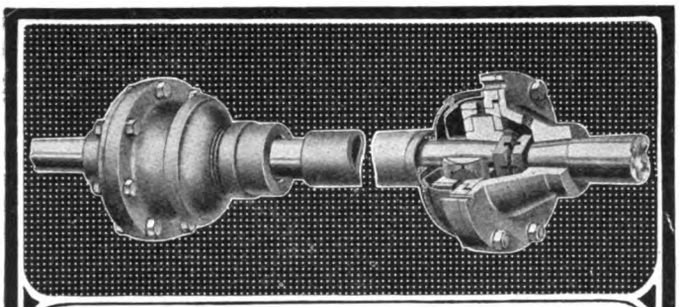

Four Point Transmission

There are *Four Large Driving Members* in the Pick Universal Joint. Power is transmitted in a free and uninterrupted flow in every direction by these *Four* Bearing Points.

Lubrication is positive, and a leak-proof grease retaining device prevents the escape of the lubricant.

Investigate this superior universal. Write for details.

Carl Pick Company
Manufacturers
West Bend, Wisconsin

Pick
UNIVERSAL JOINT

Wolverine

The Truck of Good Service

The Wolverine was "dubbed" such by a user who bought one, then a second and now a third. He bought on **Performance.**

That the Wolverine contains units that the trade recognize as of the best is but natural. No more careful workmanship is used on any truck, nor is the average factory test and inspection as critical.

All this has produced a truck that you can sell on its strength to do the job continuously—to perform economically.

If you are looking for a truck of such nature to sell at a moderate price, wire us for territory and terms.

Of course, the "Wolverine" is equipped with a self starter and electric lights.

American Commercial Car Co.
DETROIT, MICHIGAN

FOR giving maximum mileage and the greatest measure of protection to loaded trucks, Fisk Truck Tires are unsurpassed.

They save money for you.

FISK
TRUCK TIRES

The LAW *of* LUBRICATION

FOR EVERY MACHINE, *of* EVERY DEGREE *of* WEAR *there is* A SCIENTIFIC SINCLAIR OIL *to* SUIT *its* SPEED AND CONSERVE *its* POWER.

Sinclair Refining Co. Chicago

SINCLAIR OILS

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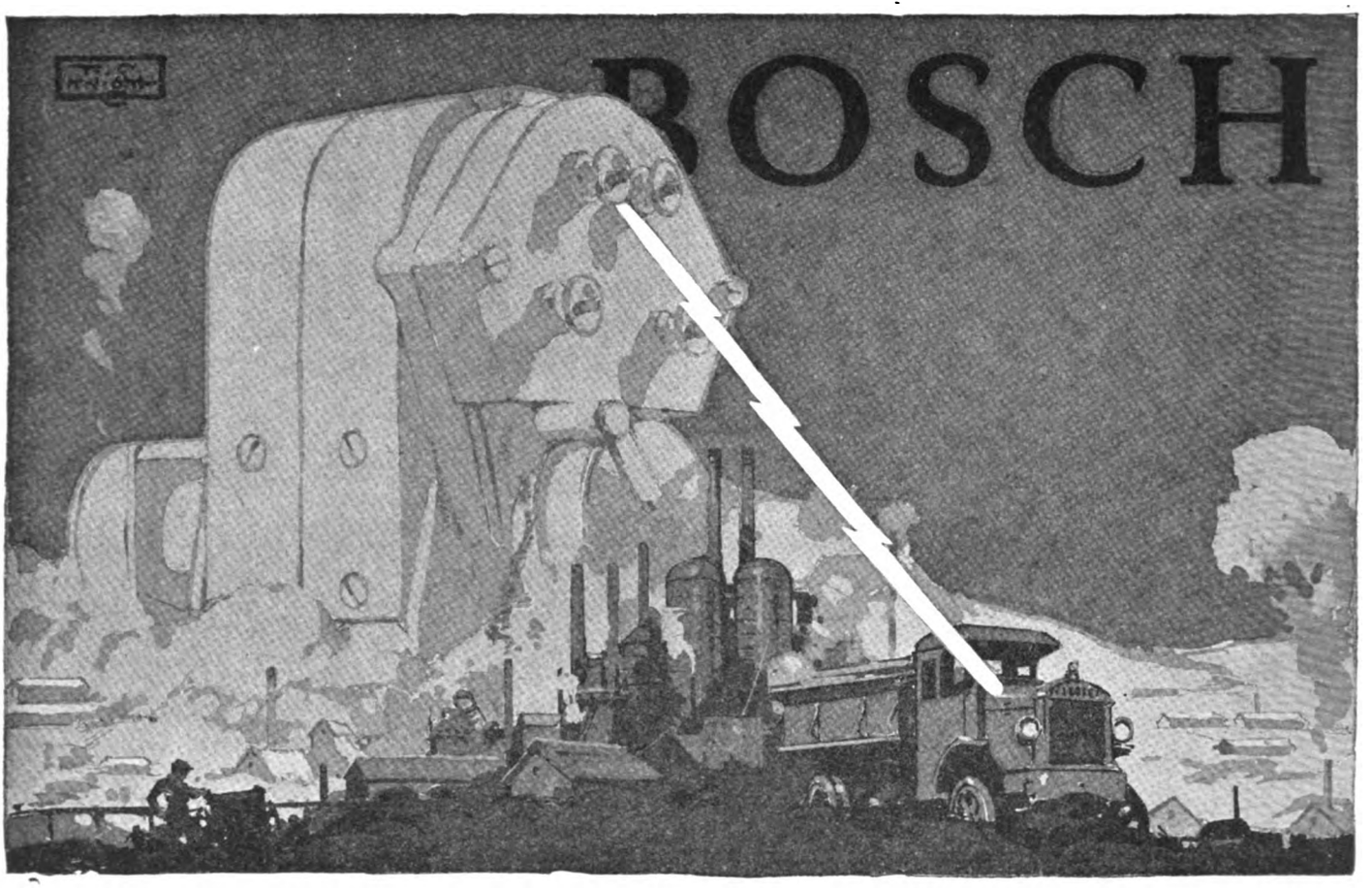

PUT THAT SALE OVER

With many good motor trucks on the market, it is important that the one you handle has special merit and selling features.

That's why you should insist on Bosch Magneto Ignition. It's one of the best "sales clinchers" you can get.

For twenty years Bosch High Tension Magneto Ignition has been universally known and recognized as the system which insures greatest efficiency, dependability and economy in a gas engine. It's an enviable reputation that every live dealer is striving to put on his selling force. Add this Bosch sales asset. Specify Bosch High Tension Magneto Ignition on every order you send in. You can get it.

Be Satisfied ***Specify Bosch***

300 Service Stations in 300 Centers

AMERICAN BOSCH MAGNETO CORPORATION

Main Office and Works: Springfield, Mass.

Branches: New York, Chicago, Detroit, San Francisco

AMERICA'S SUPREME IGNITION SYSTEM

MOTOR TRUCKS - TRACTORS - AIRPLANES - MOTOR CARS - MOTOR BOATS - MOTORCYCLES - GAS ENGINES - ETC.

Please mention "Power Wagon" when writing to advertisers.

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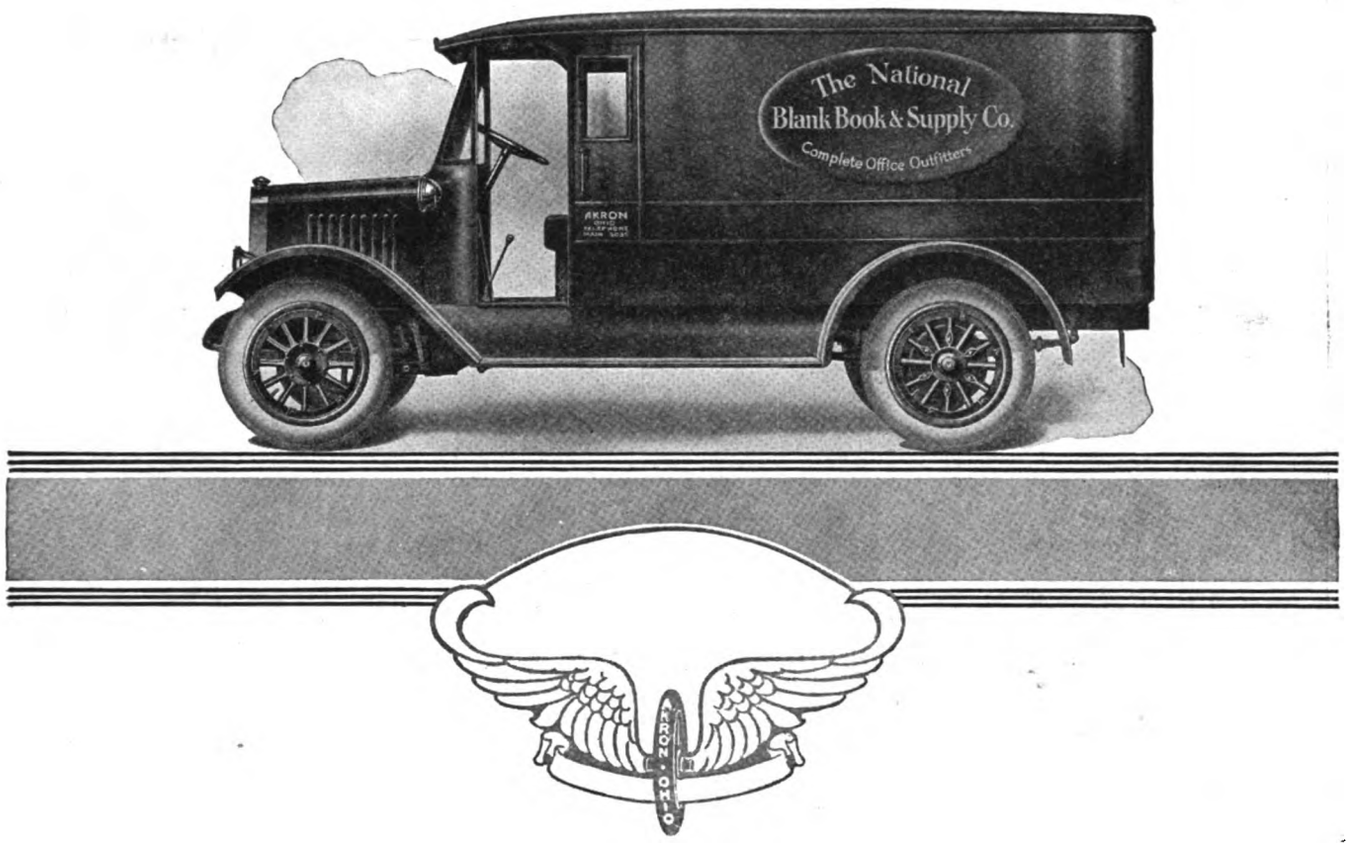

HIGH SPEED DELIVERY

HAS BECOME A NATIONAL NECESSITY

The biggest development of recent years in the motor truck industry is being brought to a climax at Kent, Ohio, where the Thomas Thomart Motor Company has completed production plans for

A super-quality 2000 pound speed truck to supply the vast and immediate market which is waiting for exactly this product.

Bankers have expressed their willingness to cooperate in financing sales of the character for which this truck is expressly built.

Progressive dealers can obtain full data on request.

THE THOMART MOTOR COMPANY

Everett Bldg., Akron, Ohio *Factory, Kent, Ohio*

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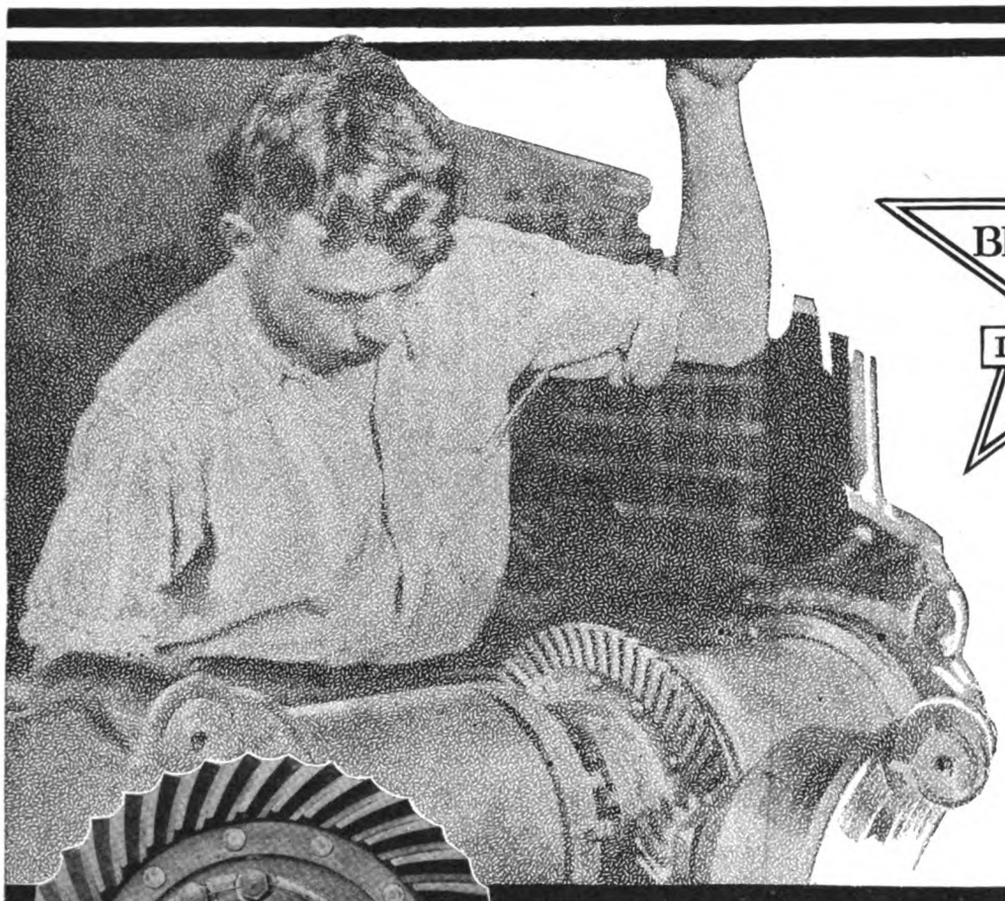
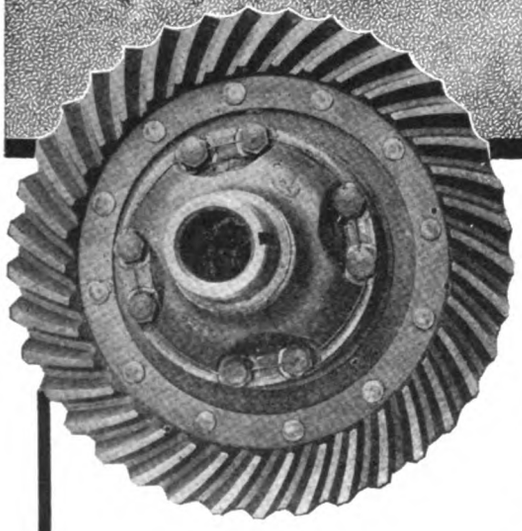


BROWN-LIPE CHAPIN DIFFERENTIALS



58 out of 120 Operations are Inspections

IF YOU could follow a certain standard part through the Brown-Lipe factories you would learn that it takes 62 operations to actually form it and heat-treat it.

You would see its correctness challenged 58 times—after every major operation and after every minor one—by rigid inspections, tests and checking.

It is this constant guarding against error, from mill shipments through all operations to final delivery, that assures a product of uniformly high quality.

Car and truck manufacturers and users can have no better protection than this.

BROWN-LIPE GEAR TRANSMISSIONS

BROWN-LIPE GEAR CO. TRANSMISSIONS

BROWN-LIPE-CHAPIN CO. DIFFERENTIALS

BOTH AT SYRACUSE, N. Y.

No. 16 of 40 Reasons for Superiority

Please mention "Power Wagon" when writing to advertisers.

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When the Traffic Cop Says "Go"

That is but one of the many occasions when

Exide
BATTERIES
For Gas Truck Starting and Lighting

prove their real value. On solid tired trucks, where the terrific vibration soon ruins the ordinary kind, this efficient and dependable battery renders a long life of satisfactory service with a minimum of expense for repairs.

The Exide Truck Battery requires no special spring mounting to absorb the jolts and jars—it was built to withstand them. It was originally designed for Uncle Sam's Army Tanks—the roughest service in which storage batteries were ever used. It is the finished product of 32 years battery building experience.

Write and let us give you more detailed information.

THE ELECTRIC STORAGE BATTERY CO.

Oldest and largest manufacturers in the world of Storage Batteries for every purpose

1888 PHILADELPHIA 1920

Branches in seventeen cities

Special Canadian Representative: Chas. E. Goad Engineering Co., Limited
Toronto and Montreal

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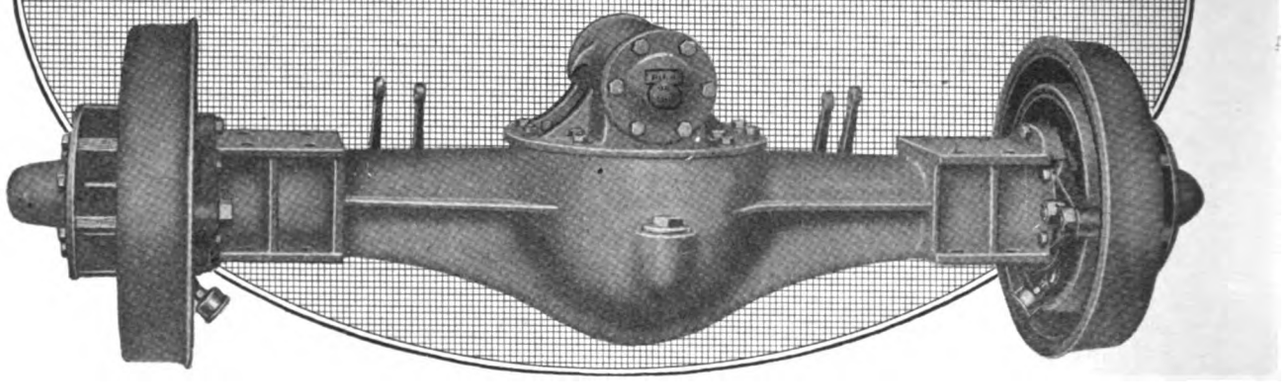
WISCONSIN AXLES



Wisconsin Worm Drive Axles Achieved Success Through Performance

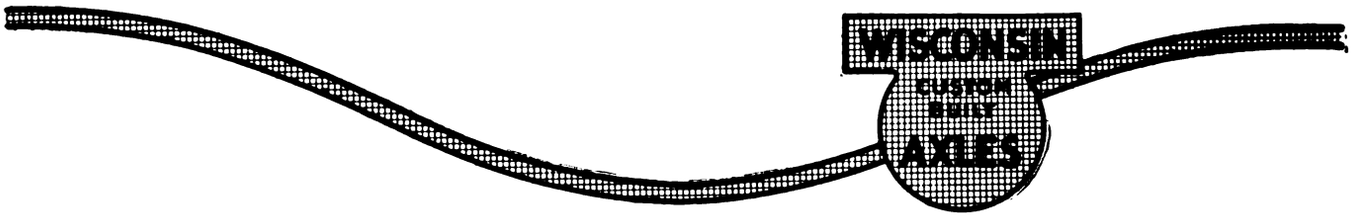
Thirty-five manufacturers of high grade trucks use Wisconsin Axles. This remarkable sales record is due to the record performance of the product.

Wisconsin Axles are the most efficient because they were designed to give the lowest operating costs. The worm gears are 97% efficient which exceeds any other form of bearing. Ball bearings justify their high price, because they transmit more power. The expensive brake design using two sets of drums and shoes means more mileage without renewing brake lining, and also prevents any brake trouble due to grease or oil because they cannot reach the brakes.

Wisconsin Axles create a dealer good will that has kept our list of customers growing just as fast as we find ourselves able to take them on

WISCONSIN PARTS COMPANY

OSHKOSH, WISCONSIN



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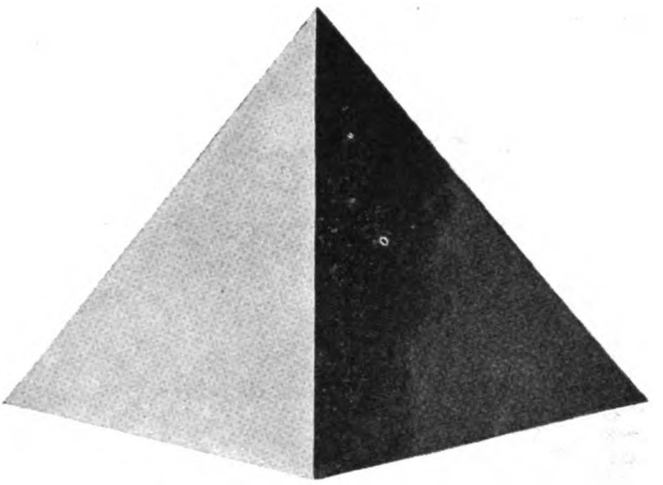

The Pyramid of Service

This is the emblem by which Service Motor Trucks may now be identified on the highways of the nation. Look for the Red Pyramid on the radiator. It stands for enduring service and reliability.

Ten years ago Service Motor Trucks embodied the first definite steps toward complete shock insulation. Six years later the present Service System of SCIENTIFIC CUSHIONING was pronounced complete. Today, with records of thousands of trucks before us, we know that this Service development sets a new standard of motor truck reliability.

The Service System of SCIENTIFIC CUSHIONING protects the engine, transmission, differential and other vital parts from the ruinous effects of shocks and strains—the greatest enemies of truck efficiency. Road shocks and strains are absorbed by scientific cushions located at strategic points in the truck, *before they reach the vital parts.*

The result is that Service Motor Trucks maintain normal power and speed for years under most strenuous road abuse. Their remarkable records of work done on schedule time have amply proved these facts to dealers as well as users.

Service Motor Trucks, embodying this perfected system of SCIENTIFIC CUSHIONING, are built in 7 models, with 80 combinations of power, speed and capacity. Among them is a model exactly suited for every use.

Dealers find that these features, plus dominant advertising programs in *The Saturday Evening Post, Literary Digest, Leslie's, System,* and a great many trade-papers, make a powerful motor truck selling proposition.

If you can give service to your customers and properly represent us, write immediately for full information.

Service Motor Truck Company

WABASH, INDIANA, U. S. A.

Service MOTOR TRUCKS

With the Red Pyramid on the Radiator

24

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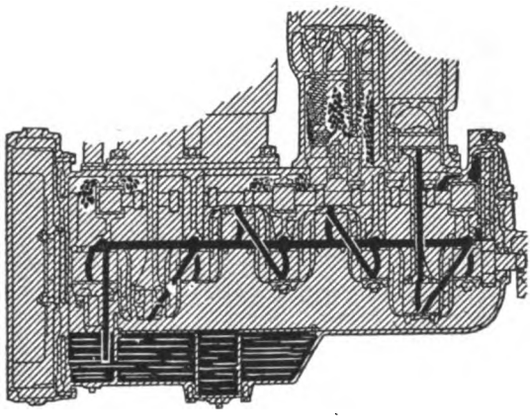


The Oil is Forced to Every Bearing

Because it is the only positive method to lead the lubricant to the points where bearing pressures are greatest.

Because it is the only method to insure that the undesirable heat generated by the friction of each bearing is carried away with the desirable rapidity.

Because it is the only positive method to control and regulate with that degree of accuracy necessary to insure every bearing having its full quota of oil, while positively preventing excessive oil consumption and consequent fouling of spark plugs.

In the Hercules design all this is accomplished without the added complications of separate oil pipes and connections by a simple fool-proof system of cast-in tubes and drilled oil ducts.

Positive Proof of Performance

Every Hercules Engine before leaving the Hercules factory must measure up to the highest standards, not only of engine building, but of engine performance.

Hercules inspectors are not content with rigid inspections following every machining operation and every assembling operation.

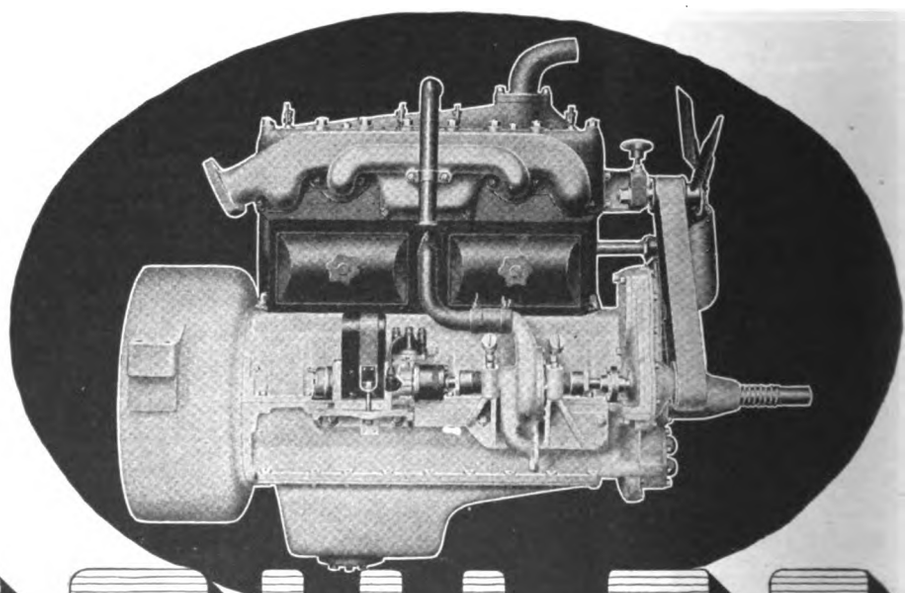
Every Hercules Engine before being released must be tested under load and show a record of satisfactory performance with proper emphasis on control, uniformity and range.

A complete battery of dynamometers installed in the Final Test Department insure the ability of each and every Hercules Engine to measure up to the high standard of performance maintained by Hercules Engines already in service.

The Hercules Motor Mfg. Company

Canton, Ohio

Sales Offices: Detroit Chicago Buffalo
San Francisco London, England



HERCULES

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WARNER

HEAVY DUTY TRUCK TRAILERS

TWO AND FOUR WHEEL TYPES

FOR every trucking need there is a Warner Trailer to make every truck more profitable. Warner Trailers shoulder the lion's share of the load. Built on the best truck construction principles to stand up under the hardest service with the best trucks.

Owners of light trucks will be interested in the Warner Model S-5, an extremely practical proposition that will handle a load of better than 4,000 lbs. Equipped with pneumatic tires. This Warner Trailer and a ¾ to 1 ton Truck creates practically a two ton truck at a very low investment figure.

A handy and economical hauling unit for merchant, manufacturer or farmer. Write for literature and full information on how to halve hauling costs.

The Warner Manufacturing Co.

26 Main Street BELOIT, WIS.

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THE SATURDAY EVENING POST
September 4, 1920
Mo-lyb-den-um Steel
The American Super-Steel
and
The LIGHT WEIGHT CAR
THROUGH the ages, man's progress in the development of transportation has been dependent upon the discovery of better materials with which to put his ideas into execution.
The modern motor car is a product of steel. And so it cannot be better than the steel from which it is made.
Better motor cars require better steels.
Molybdenum Steel possesses
Greater Strength
Greater Toughness
Greater Resistance to Wear, Shock and Fatigue.
This means
Lighter Cars
Greater Economy
Longer Life
Maximum Efficiency per Dollar Invested.
Molybdenum is the high-steel alloy element mined in sufficient quantities in this country to take care of our fast growing industries. A mountain of Molybdenum ore at Climax, Colo., radically makes the United States independent of the rest of the world in the production of the finest alloy steel.
BE SURE YOUR CAR OR TRUCK IS MADE OF MOLYBDENUM STEEL
Climax Molybdenum Co. associated with The American Metal Co., Ltd.
61 BROADWAY, New York
Climax Molybdenum Company is the largest producer of Molybdenum in the World
Molybdenum
Commercial Steels
Climax Molybdenum Company
61 Broadway New York

The United States is dependent upon importations from foreign countries for all steel alloying elements except Molybdenum. The world's chief source of this metal is at Climax, Colo.

Write for Your Copy of our Book— "Molybdenum Commercial Steels"

CLIMAX Mo-lyb-den-um The Commercial Alloy

Climax national publicity is making Molybdenum Steels as well known to the passenger car and truck buying public as they are already known to automotive engineers and steel metallurgists. When you state that Molybdenum Steels are used in your products, you will be talking **quality in terms that all buyers will understand.**

Climax Molybdenum Co. *Associated with* The American Metal Co., Ltd.

61 Broadway New York

Climax Molybdenum Company Is the Largest Producer of Molybdenum in the World

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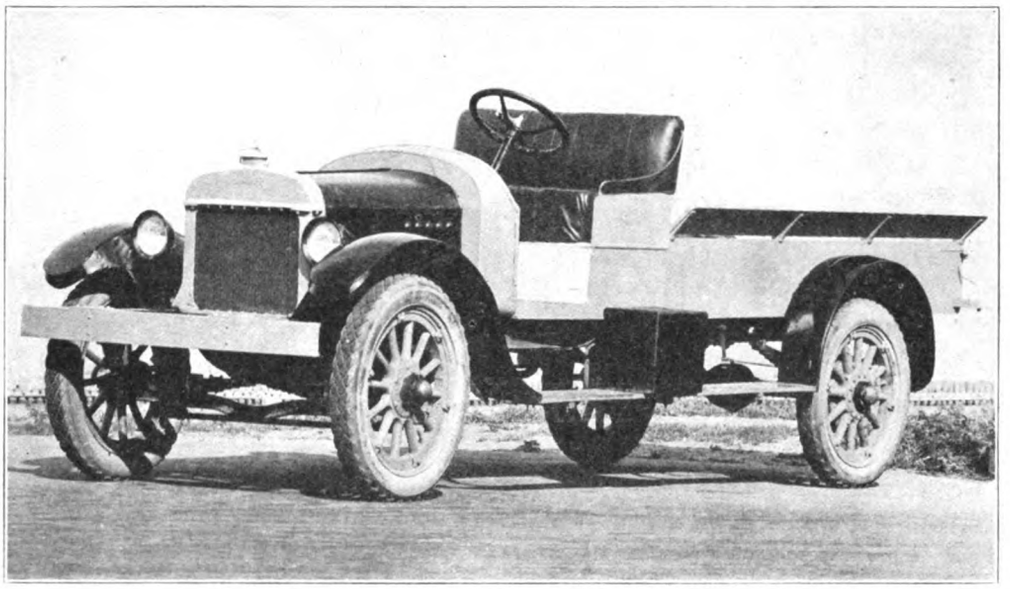
WINTHER MOTOR TRUCKS KENOSHA, WIS.

Announcing—



"The Winther Delivery Special"

Built to meet the demand for a sturdy speed-truck, the "Winther Delivery Special" is well named.

It is a WINTHER first of all, like its heavy duty brothers—a rugged, powerful little hustler that can handle its ¼-1 ton loads with the utmost ease.

Every unit of its construction has been selected with the idea of long service. The frame is of 5" hot rolled channel; the springs are the best alloy steel; the motor, big and powerful.

The "Delivery Special", in fact, can make 40 miles per hour on the open road, with full capacity load, and do so at the rate of 16 miles per gallon of gasoline.

For the grocer, the baker, the farmer, the laundry company, and express service—for all light hauling, indeed—the "Winther Delivery Special" is the *one* truck. It answers every requirement of speed, strength, and pulling power. It is economical in first cost and in upkeep. Even its appearance bespeaks capability.

Dealers will find a tremendous market for such a truck as this—a truck that they can move easily and profitably.

The Winther Company has a most interesting proposition for dealers in open territory. Why not write or wire today for complete information?

Regular equipment on the "Delivery Special" includes electric lighting and starting, pneumatic tires, speedometer, Alemite lubricating system, bumper, and other sales-making features.

WINTHER MOTOR TRUCK COMPANY

Manufacturers of Motor Trucks and Motor Cars

KENOSHA, WISCONSIN

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MIDWEST
TRUCK and TRACTOR ENGINE

Compare the Mechanical, Volumetric And Thermal Efficiency of This Engine With Any Other Engine

EVERY claim we have made for the Midwest Engine has been *proved* by manufacturers in gruelling tests.

They have proved that this engine delivers a performance equal—and in most cases superior—to engines of greater displacement.

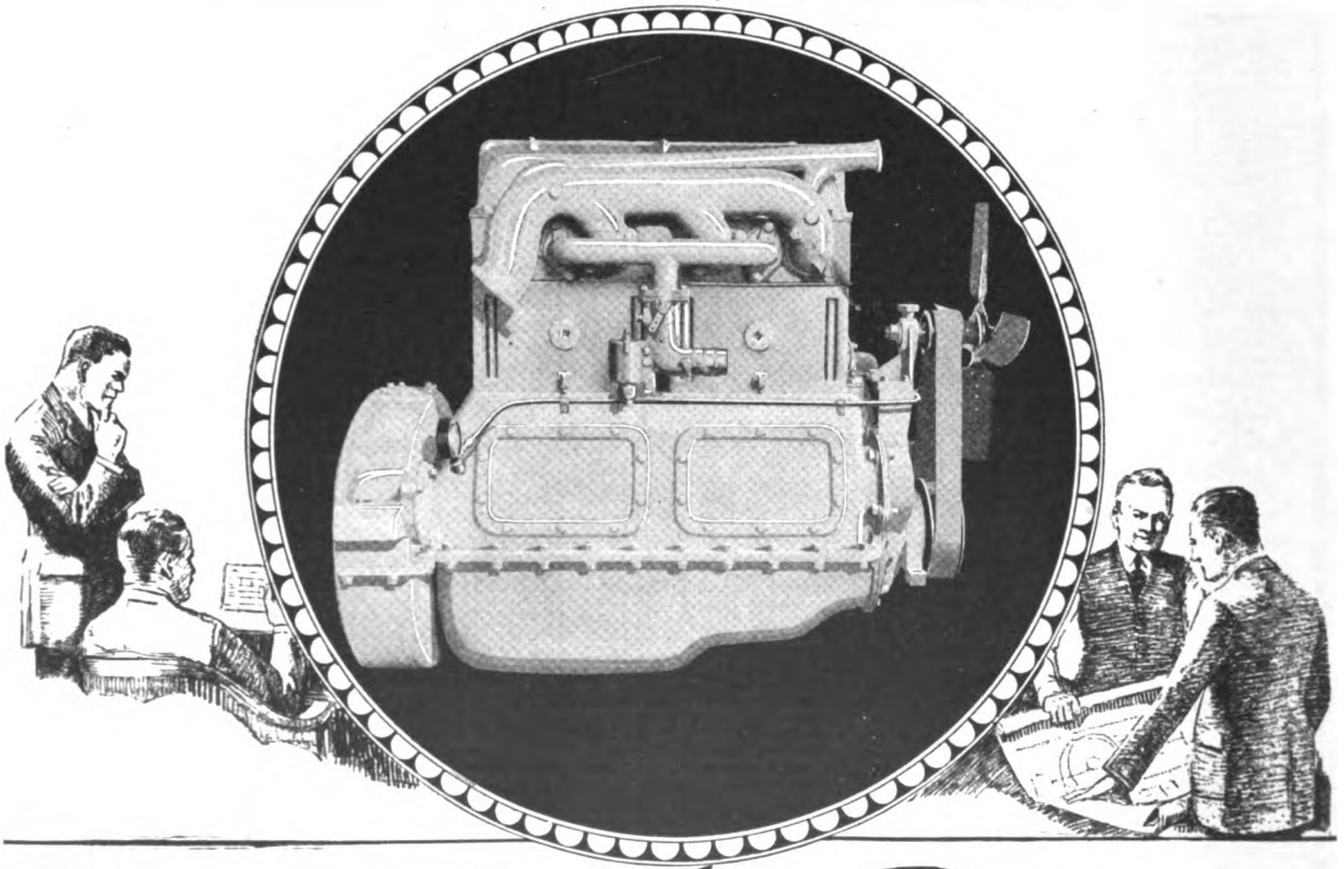
In fact, they have found what they have wanted in an engine—a performance and service ability able to meet the present day demand for greater average truck speed. They have found that it is not bore and stroke which counts, but performance—performance that means a high speed, safe, economical and dependable *driving* effort that will be the means of selling trucks on a *Performance Basis*.

We have prepared complete data on the performance of the Midwest truck engine—its mechanical, thermal and volumetric efficiency—which we will gladly send you—and we want you to compare it with like data *on any other engine on the market.*

You will readily see why our manufacturing capacity is being rapidly absorbed by wide awake truck manufacturers.

We suggest you write for this data. Our Sales Engineers are at your service.

MIDWEST ENGINE COMPANY, INDIANAPOLIS, U. S. A.



Dependable Power

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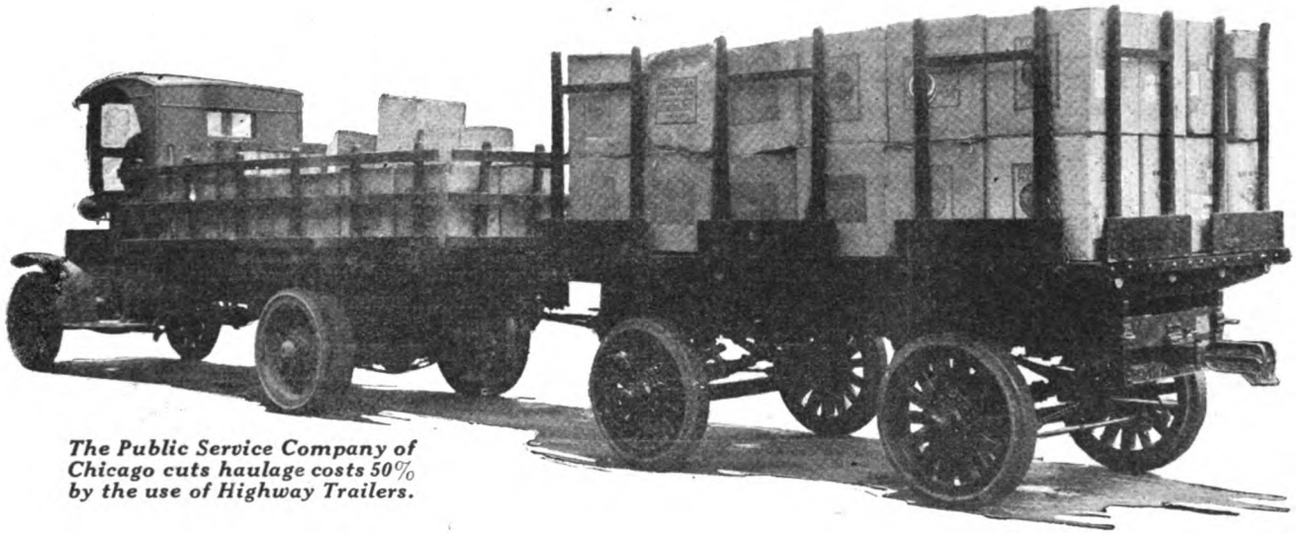
HIGHWAY TRAILER

EDGERTON WISCONSIN

The Largest Trailer Plant in the World



The Public Service Company of Chicago cuts haulage costs 50% by the use of Highway Trailers.

Sell the Trailer These Great Firms Choose

Many Bankers Now Stipulate the Use of Trailers in Financing Truck Sales

These are a Few Large Operators of Highway Trailers

The U. S. Army *The U. S. Navy*
Baldwin Locomotive Works
Philadelphia
American Telephone & Telegraph Co.
The Cadillac Motor Car Co.
Detroit
The National Tea Company
"Piggly Wiggly" Chain Stores,
Headquarters, Chicago
The Timroth Motor Express Co.
Chicago
Southwestern Telephone & Telegraph Co.
St. Louis, Mo.
Towars Creamery Co.
Detroit
Chicago Telephone Company
The T. M. E. R. & L. Interurban Express Co.
Milwaukee, Minn.
The Fisher Body Co.
Detroit
The Rex Manufacturing Co.
Connersville, Ind.
The Public Service Company
Chicago
The Timken-Detroit Axle Co.
Detroit
Lindeteves-Stokvis Company
Amsterdam, Holland
Dutch East Indies:
Semarang-Soerabaya-Batavia
Tegal-Djokjakorta-Bandoeng
Medan-Makassar
T. E. M. A.
Buenos Aires-Shanghai

Every truck in your territory is a prospect for Highway Trailers The time is at hand when practically every truck sold will sell one or more trailers.

Highway Trailers have established a dominant place in the scheme of modern transportation.

Thousands of truck operators now employ them who formerly bought trucks to meet their increased haulage needs. They add just as much hauling capacity as additional trucks. They require no added drivers. The operating cost is about 1 cent per ton mile as against 20 cents a ton mile for the average truck. And Highway Trailers cost $1900 to $4000 less per unit than trucks.

The quality and construction of Highway Trailers are proved by the fact that they are the only trailers accepted without design change by the United States government, which operates more than $1,000,000 worth.

With such advantages you have the opportunity to build a big, profitable business.

If you are interested in a franchise, write promptly.

The Highway Trailer Company, Edgerton, Wisconsin

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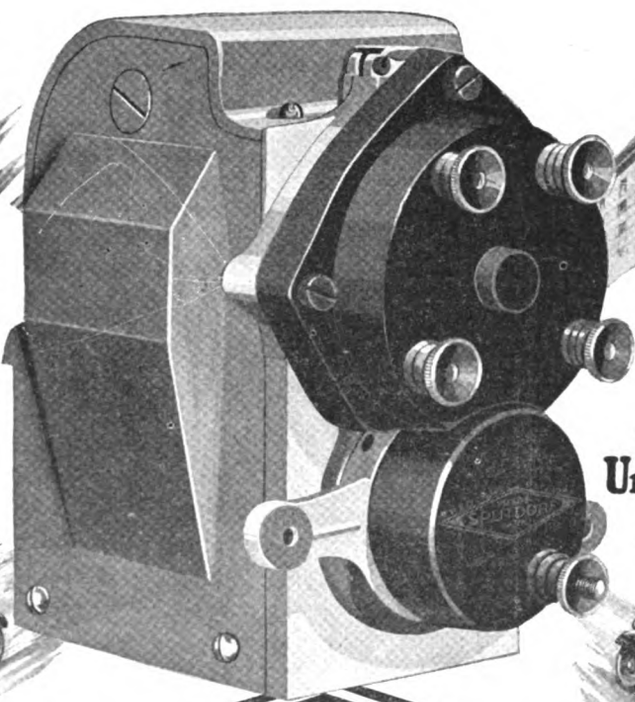
Don't Overlook This "POWER-FUL DIFFERENCE" in MAGNETOS



ORDINARY MAGNETOS Fire Like This

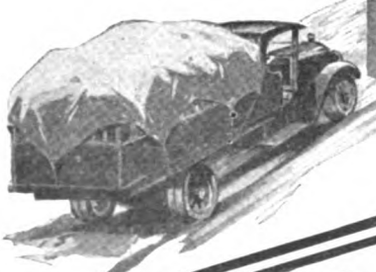
→ ← → ←

Two Way Sparks of Unequal Intensity

The New SPLITDORF Aero MAGNETOS Fire Like This

→ → → →

Uni-Directional Sparks Always the Same



TRADE **SPLITDORF** MARK

ESTABLISHED 1858

SPLITDORF ELECTRICAL CO. Newark, N.J.

WORLD'S LARGEST MAKERS OF IGNITION EQUIPMENT

Please mention "Power Wagon" when writing to advertisers.

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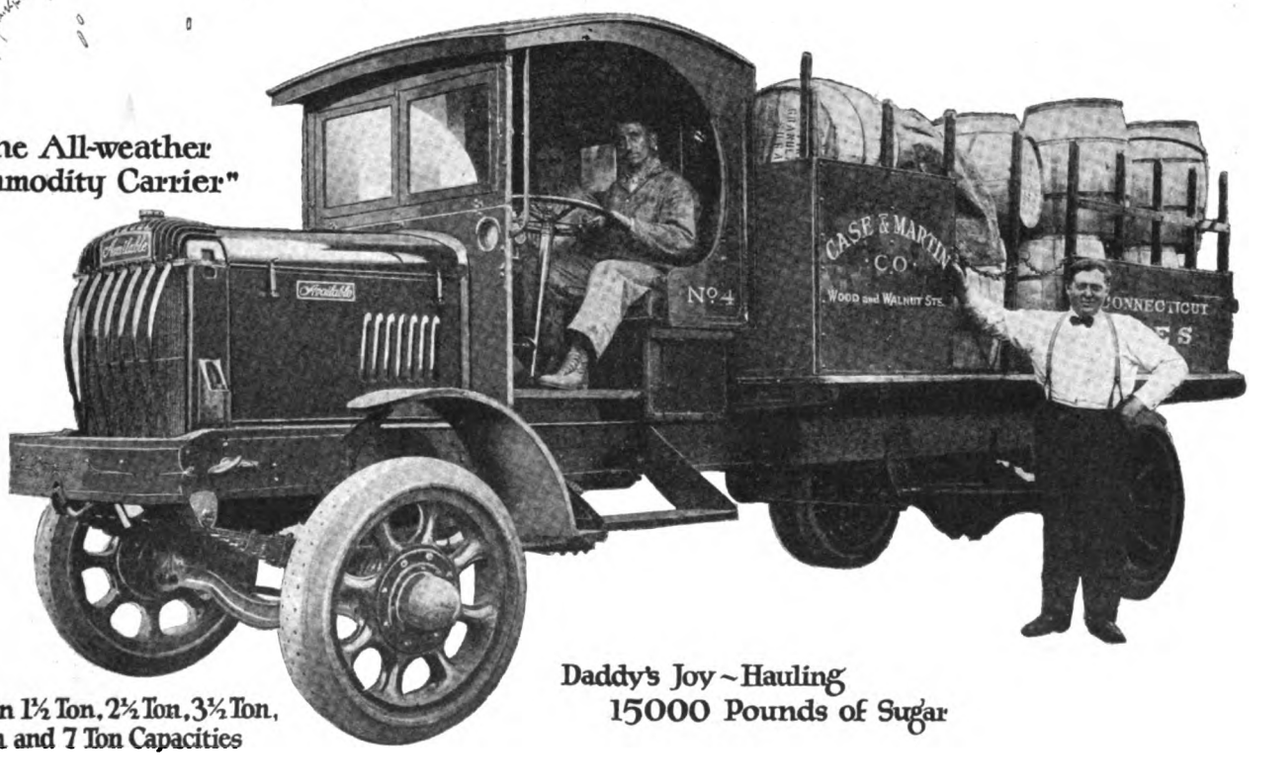
The Event of the Day~
Mother's Joy~Baby's bath

Mother's Joy~Giving a bath
to her 30 pound sugar plum

Daddy's Joy~His Money Maker

Hauling and Delivering by the Economical and Efficient
AVAILABLE TRUCK~*always available*

"The All-weather
Commodity Carrier"



Made in 1½ Ton, 2½ Ton, 3½ Ton,
5 Ton and 7 Ton Capacities

Daddy's Joy~Hauling
15000 Pounds of Sugar

Available Truck Co., *North & Kilpatrick Aves., Chicago, U.S.A.*

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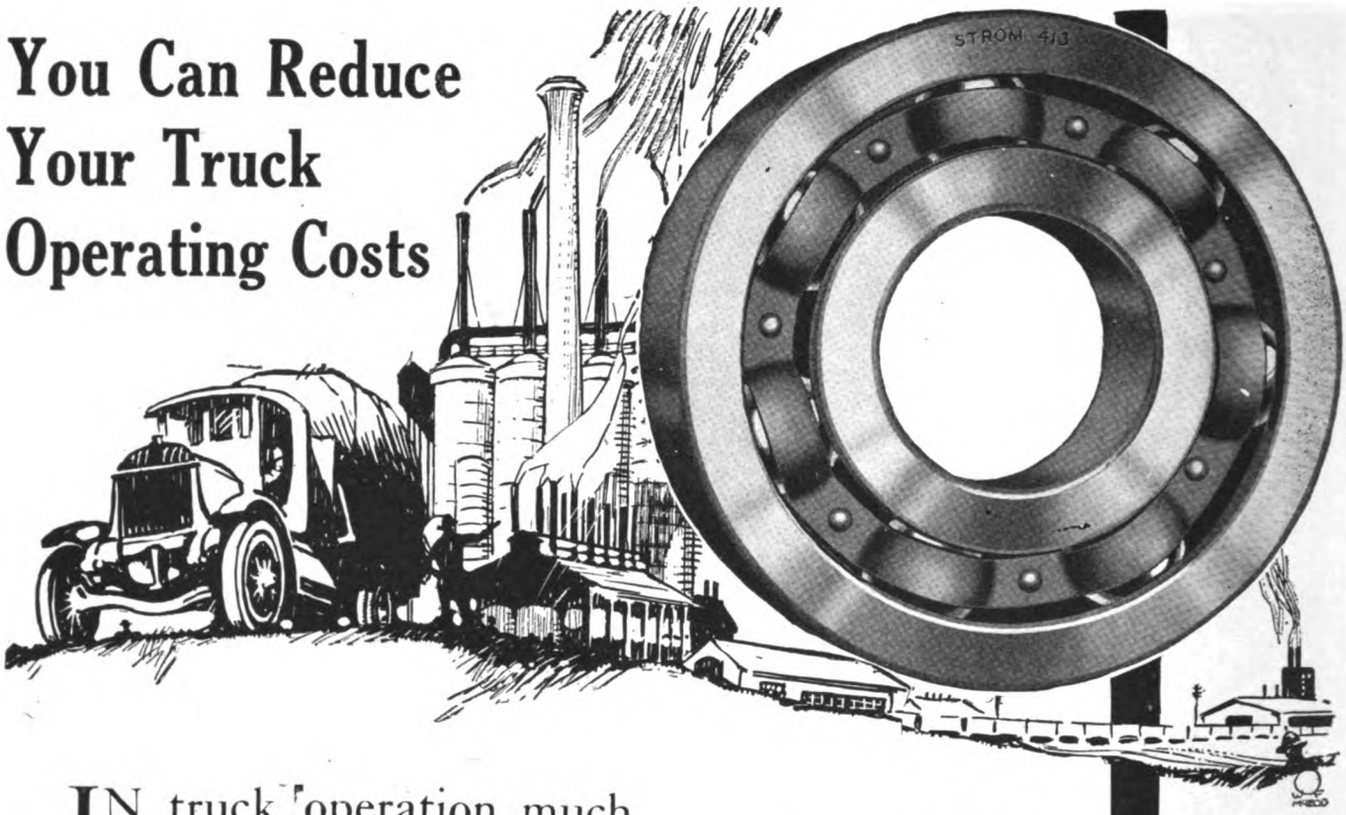
You Can Reduce Your Truck Operating Costs



IN truck operation much of the power is unnecessarily lost in transmission from the motor to the wheels through the axle.

By the correct application of ball bearings in the axle, friction is reduced and power is saved, thus reducing the consumption of gasoline and oil per mile.

Strom engineers have had years of experience in the correct application of bearings for axle transmissions and other operating parts of motor vehicles.

Their experience is at your service.

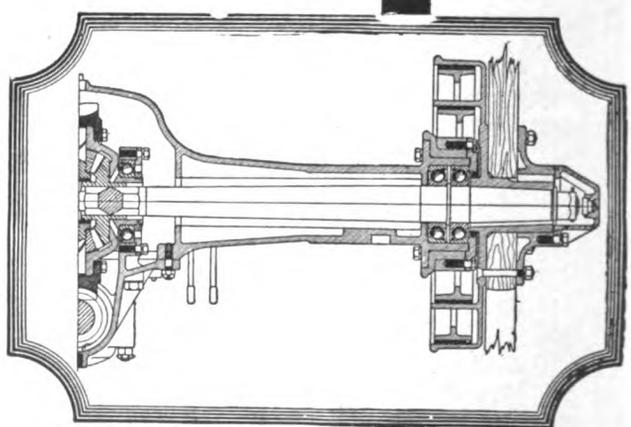
U.S. BALL BEARING MFG. CO.
(Conrad Patent Licensee)
4541 Palmer Street Chicago, Illinois

Strom BEARINGS

Radial bearings made in a wide range of sizes for light, medium and heavy duty.

Angular contact bearings especially designed to support combinations of radial and heavy end thrust loads.

Thrust bearings made in all types and sizes with flat and grooved races.



Strom bearing mounted in worm driven rear axle for motor truck

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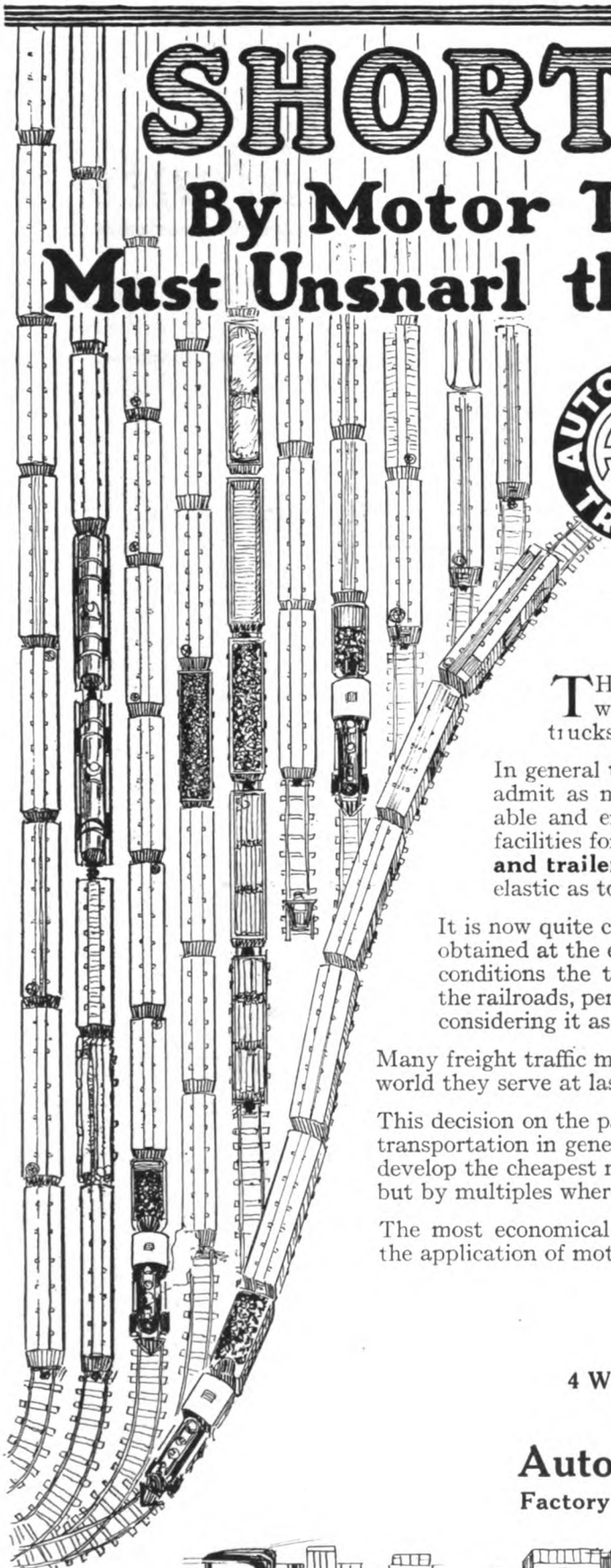
SHORT HAULS

By Motor Truck Train Must Unsnarl the Freight Tangle



AUTOMOTIVE ATC TRAILER

The Only Remedy for Rail Freight Congestion

THE only remedy for the appalling congestion in rail freighting—which is causing stagnation of industry—is to freely apply motor trucks **and trailers** in the whole field of the short haul.

In general the railroads lose money on short hauls. Their executives openly admit as much, and many of them either want to get rid of this unprofitable and embarrassing feature of their business, or else want to reorganize facilities for its retention. They believe it should be undertaken by trucks **and trailers**—by road trains which provide a system of transportation so elastic as to make freight congestion impossible.

It is now quite clear that any improvement in short haul rail service can only be obtained at the expense of the more profitable long haul service. Under existing conditions the two are antagonistic. This being the case it is but natural that the railroads, perceiving the great advantages of the motor truck train, are actively considering it as an auxiliary and developing its potentialities to maximum.

Many freight traffic managers are at work on the problem. They and the business world they serve at last realize that the day of the road train is actually at hand.

This decision on the part of the railroads will cause a corresponding change in road transportation in general. Hereafter the general purpose of motor trucking will be to develop the cheapest method of hauling merchandise—not necessarily by a single unit, but by multiples wherever their employment is indicated.

The most economical form of road transportation is that which makes provision for the application of motor trucks **and trailers.**

Write for our dealer proposition.

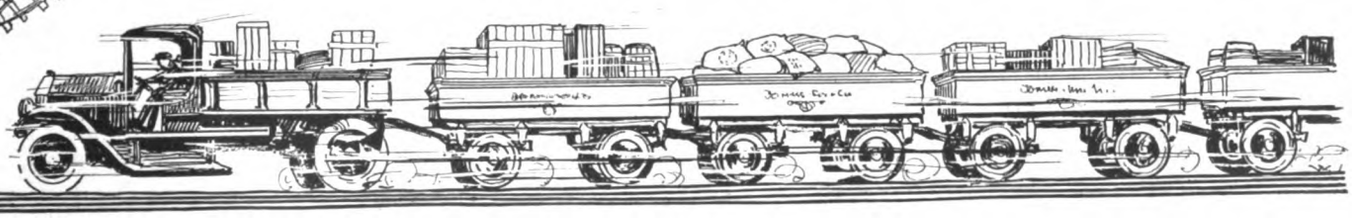
COMPLETE LINE

4 Wheel Semi Pole 2 Wheel

1 to 15 Ton Capacity

Automotive Trailer Corporation

Factory and General Offices: SPRINGFIELD, ILL.



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To

Presidents or Vice-Presidents of Manufacturing Concerns

A MAN thirty years of age, now an executive in sales and advertising administration with one of the leaders in the automotive industry, desires to work into an interest in some progressive manufacturing concern.

His advertising work for the past five years has given him skill and experience in that line. His activities in sales administration includes making investigations and surveys, building sales organizations and securing and developing distribution both foreign and domestic. He has given careful attention to the export field.

His purpose in making a change is a prospect of an interest in the business. Do not answer unless you can offer that prospect to the right man on the right showing.

Address—C. F., care "Power Wagon"

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EFFICIENCY-RELIABILITY-DURABILITY
GARY
SIMPLICITY-TRUCKS-ECONOMY

MAKE COMPARISONS

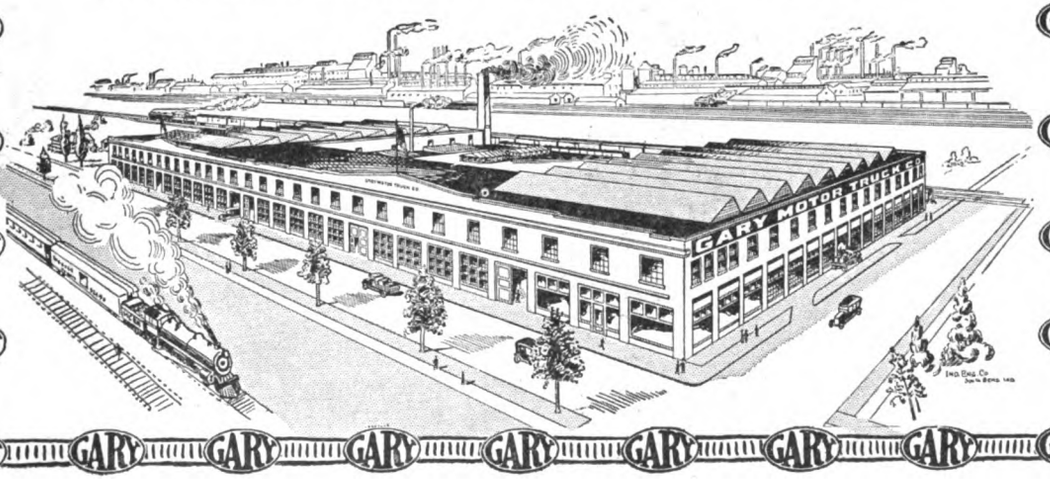
Turn over to the "Motor Truck Specifications" in Power Wagon and see for yourself how much larger and better Gary trucks are than other trucks of the same rated capacity—and after you have learned what Gary users know, please note that Gary prices are **below the average** of over forty different makes of heavy duty worm drive trucks.

We have some open territory.
We can make mmediate deliveries.
Our proposition to dealers is the most liberal to be had anywhere.

Write or wire today

The Gary Motor Truck Co., 2300-2316 W. 9th Ave. GARY, INDIANA

1, 1½, 2½, 3½ and 5 ton Special Farm Wa on, Special Motor Bus, Special Tractors



Please mention "Power Wagon" when writing to advertisers.

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DIETZ LAMPS

Equip Trucks With The Kerosene Lamps Which Give The Least Trouble

NIGHT motor traffic is increasing so fast that good lights are more important than ever before.

Proper care of any truck demands considerable work anyway, without adding the necessity for tinkering with troublesome lamps.

Besides, there are people who make their condemnation of a poor quality accessory so sweeping as to include the truck itself—and that doesn't pay.

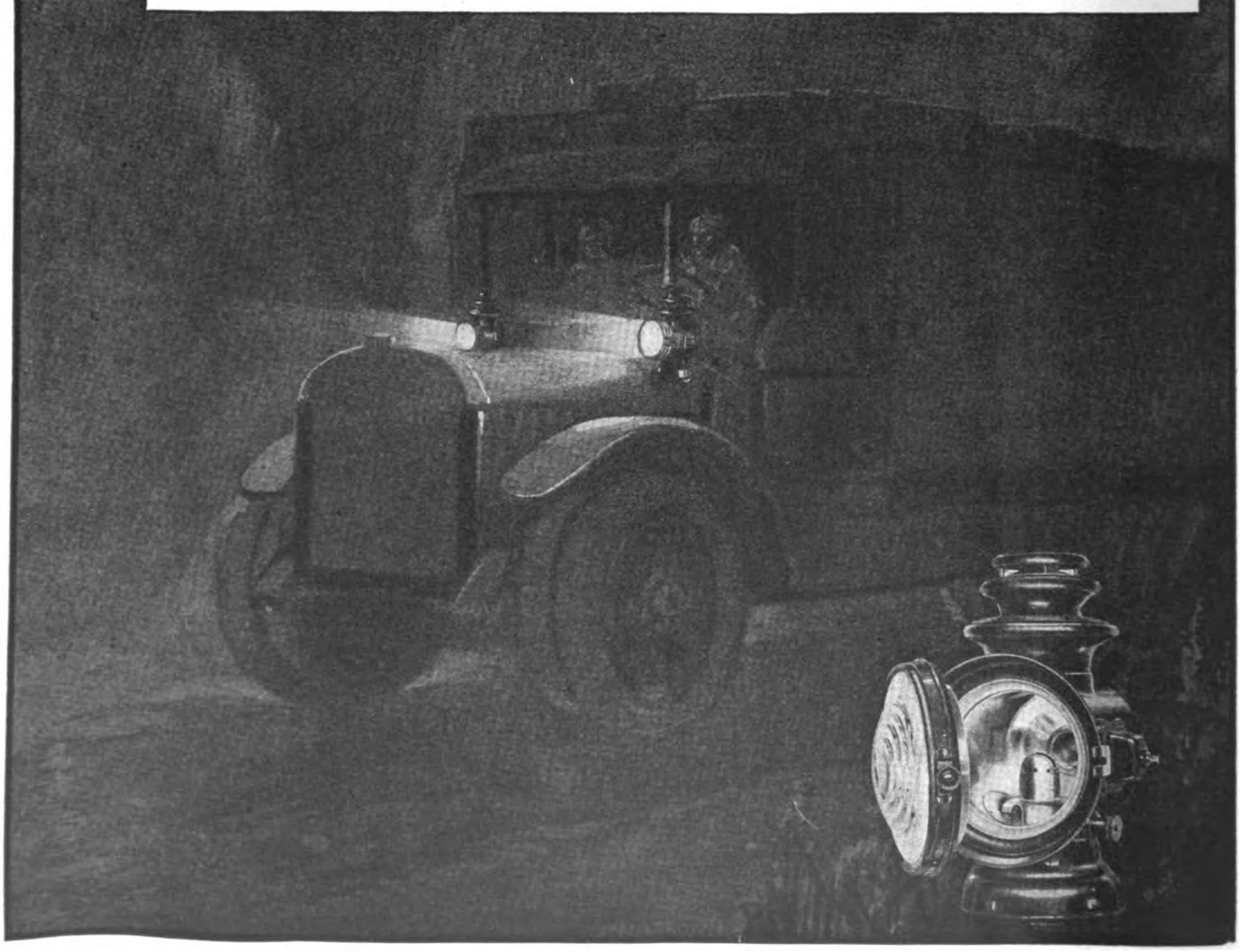
It is good business to equip trucks with Dietz "Champion" Cold-Blast Kerosene Motor Lamps and so insure against future trouble. Dietz "Royal" is a smaller lamp of the same type.

Send for Catalog

R. E. DIETZ COMPANY
NEW YORK

JAMES BARNES, Sales Manager, Motor Truck Lamp Department
CARTER BUILDING, ROCHESTER, N. Y.

DIETZ "CHAMPION" MOTOR TRUCK LAMPS



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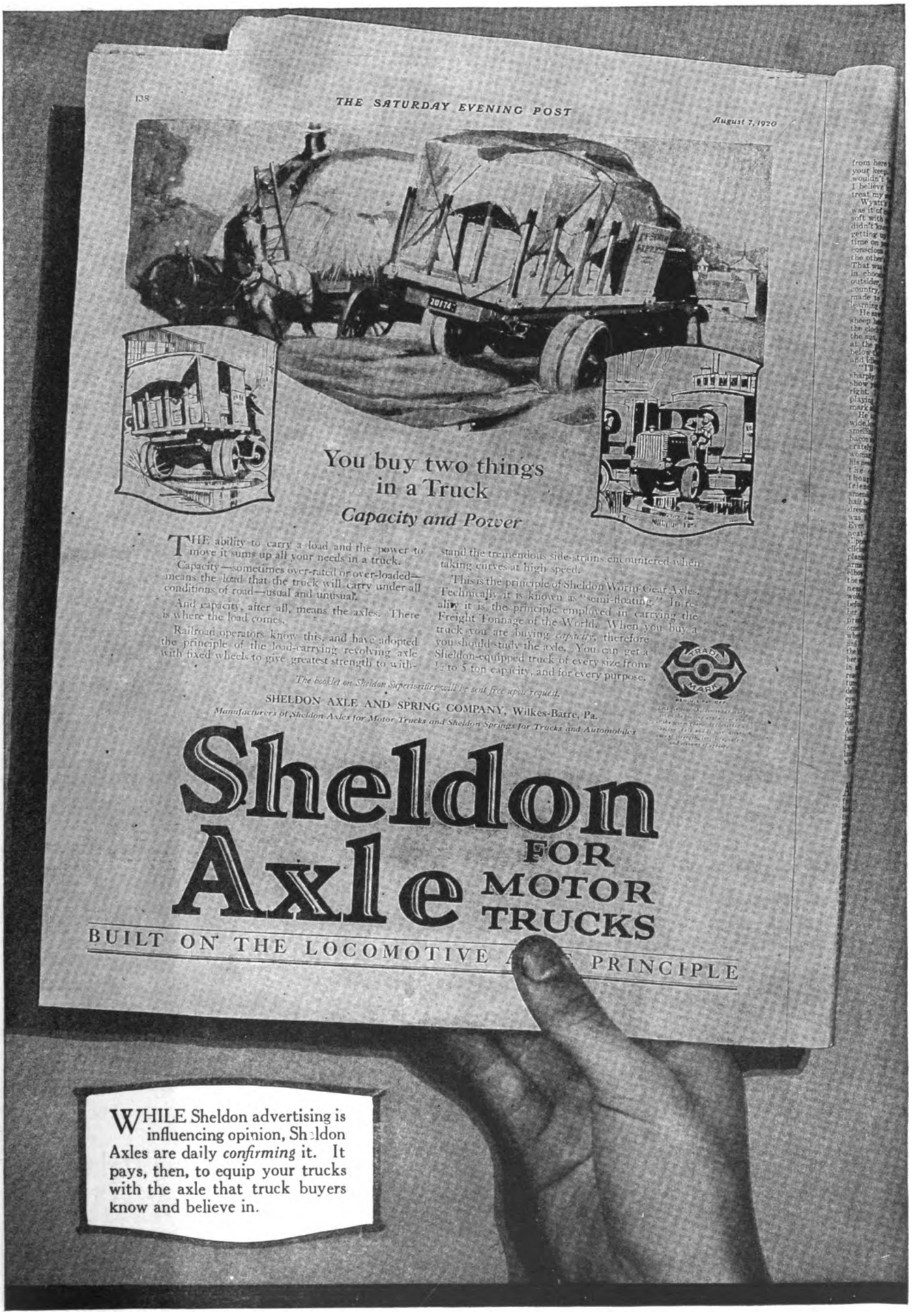
138 THE SATURDAY EVENING POST August 7, 1920
You buy two things in a Truck
Capacity and Power
THE ability to carry a load and the power to move it sums up all your needs in a truck.
Capacity—sometimes over-rated or over-loaded—means the load that the truck will carry under all conditions of road—usual and unusual.
And capacity, after all, means the axles. There is where the load comes.
Railroad operators know this, and have adopted the principle of the load-carrying revolving axle with fixed wheels to give greatest strength to withstand the tremendous side-strains encountered when taking curves at high speed.
This is the principle of Sheldon Worm Gear Axles. Technically, it is known as "semi-floating." In reality it is the principle employed in carrying the Freight Tonnage of the World. When you buy a truck you are buying capacity, therefore you should study the axle. You can get a Sheldon-equipped truck of every size from 1½ to 5 ton capacity, and for every purpose.
The booklet on Sheldon Superiorities will be sent free upon request.
SHELDON AXLE AND SPRING COMPANY, Wilkes-Barre, Pa.
Manufacturers of Sheldon Axles for Motor Trucks and Sheldon Springs for Trucks and Automobiles
Sheldon Axle FOR MOTOR TRUCKS
BUILT ON THE LOCOMOTIVE PRINCIPLE
WHILE Sheldon advertising is influencing opinion, Sheldon Axles are daily confirming it. It pays, then, to equip your trucks with the axle that truck buyers know and believe in.

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Steel Cushioned Wheels **Universal** Mead Cushioned Wheels

HUBLESS FULL FLOATING TRUCK WHEELS

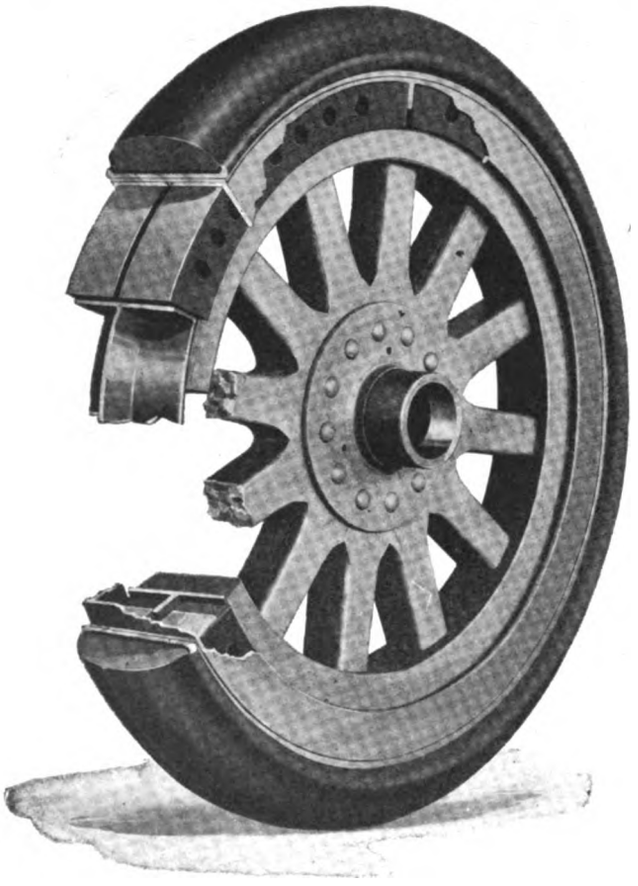
A Practical Wheel for Trucks, Tractors and Trailers

Simple in Construction

Mechanically Correct in Construction

Vibrations and Hammer Thrusts from Road Contact are Absorbed in the Wheel

The Wheel Designed with a Knowledge of Traffic Conditions



This Wheel Excels in Resiliency, Efficiency, Durability and Economy.

Reduces Gasoline Expense 25%

Reduces General Upkeep Expense More than 50%

Protects the Engine and Chassis against Crystallization

A Practical Wheel for Any Truck on Any Road with Any Load

This Wheel Meets the Growing Demand of Truck Users for Reducing Upkeep, and for Protection from Engine, Tire and Chassis Troubles.

A Wheel With Perfect Drawbar Pull

This Wheel Rides with the Resiliency of Pneumatic Tires and is not injured by Oils, Acids, Salts or Other Chemicals, because the Rubber is fully protected.

Initial Investment Compensated by Reduced Aftercost Plus Upkeep

PITTSBURGH TRUCK WHEEL CORPORATION
General Offices: 405 Fulton Building
PITTSBURGH, PA.

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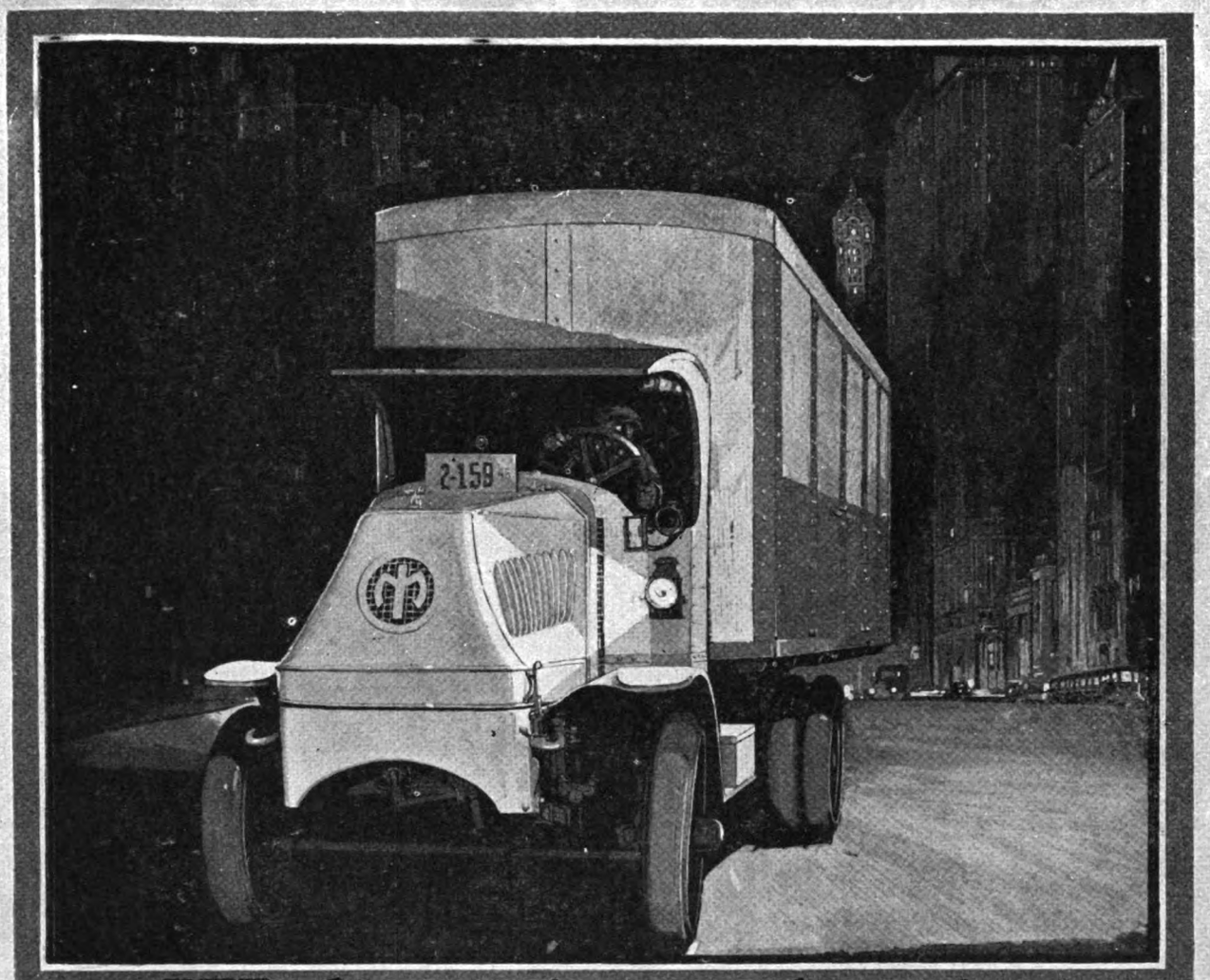

Working day and night

"After running 218 miles per day (24 hours), 7 days a week for 31 consecutive weeks, this 5½-ton Mack is now making daily round trips from New York to Philadelphia—piling up an almost unbelievable mileage record."—*From one letter of hundreds we should like you to read.*

AXLES of drop-forged chrome nickel steel, springs of heavy silico-manganese steel, and a flexible, hot riveted, pressed steel frame—these Mack details make capacity deliveries over long routes both practicable and profitable. Distinctive Mack engineering features, combined with 18 basic Mack patents, have developed the motor truck the world is talking about.

Capacities, 1½ to 7½ tons. Tractors to 15 tons
Full information upon request

Mack TRUCKS

INTERNATIONAL MOTOR COMPANY OF NEW YORK

"PERFORMANCE COUNTS"

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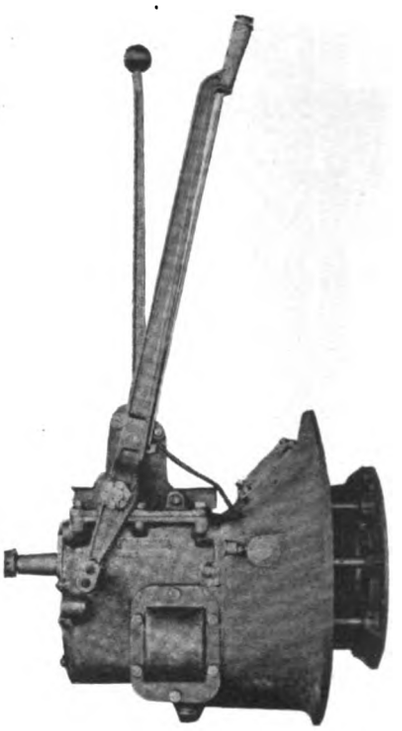
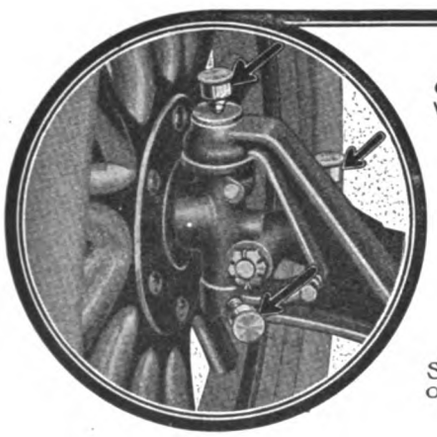
FULLER
TRANSMISSIONS

Fuller Transmissions are probably the most conservatively rated transmissions. The Engineering Department has set a maximum recommended capacity on each transmission and will not permit a Fuller Transmission to be used with a motor too large for its rated capacity. Add to that the careful workmanship and good materials used, the truck buyer is insured maximum service wherever a Fuller Transmission is used.



FULLER & SONS MFG. CO.
Kalamazoo, Mich.

Detroit **New York** **San Francisco**



Standard Factory Equipment on

Stewart MOTOR TRUCKS

Shown here as used on the Front Spindle of the Stewart No. 12-2000 Pound Trucks

EMPRESS
GREASE and OIL CUPS

Their absolute dependability, proven service, ease and economy of operation has made them the standard lubricator equipment on the majority of motor trucks.

EMPRESS No. 200
PLAIN COMPRESSION GREASE CUP

An excellent cup for motor truck lubrication, built to withstand the most exacting service. Made up of but two parts, cap and base, and drawn from rolled sheet metal, it provides a cup which cannot get out of order and one which is practically indestructible. Made from brass or steel in eight sizes: ¼ in. to 3½ in. diameter of body. Five different finishes.

Write for Catalog-R

REG. U. S. PAT. OFF. Empress

BOWEN PRODUCTS CORPORATION

Manufacturing and Sales Divisions
Auburn Div., Auburn, N. Y. Winkley Div., Detroit, Mich.
Zerk Div., Cleveland, Ohio.
Minneapolis Div., Minneapolis, Minn.

Branch Sales Offices
New York, 220 Broadway. Chicago, 1607 Otis Bldg.
San Francisco, Monadnock Bldg.
Boston, 903 Dexter Bldg. Cincinnati, 409 Lyric Bldg.

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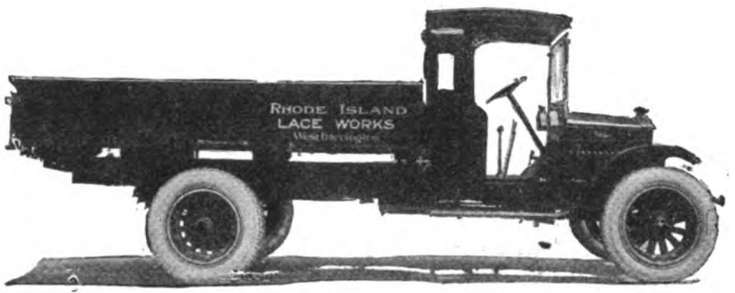
Every Merchant Is a Potential Buyer of Rainier Trucks



Dominating Features of RAINIER WORM DRIVE Trucks:

Continental Motor
Brown-Lipe Clutch and Transmission
Timken and Sheldon Rear Axle
Zenith Carburetor
Magneto Ignition

(F.O.B. New York) Chassis Prices

Model R-11, ¾ to 1 ton	$2150	Model R-6, 1½ ton	$2450
Model R- 9, 1 ton	2350	Model R-8, 2 ton	2900

Rainier

Trade Mark Registered
WORM DRIVE TRUCKS

This is just as true in the city of 10,000 as here in New York where 1000 Rainier Worm Drive trucks are carrying the loads of merchants in practically every line of business.

The success of Rainier Trucks in New York, Philadelphia and other large cities can be duplicated elsewhere. Every business man and manufacturer in your city is a potential buyer.

The Reason

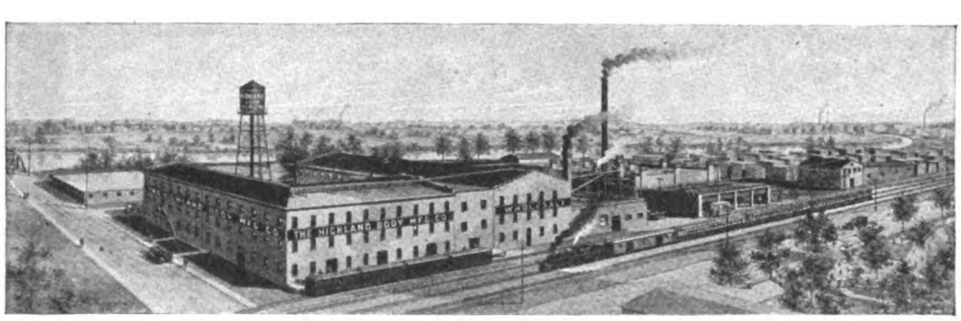
Rainier Worm Drive trucks are made in the most popular sizes. They are most universally adopted to **Average** business needs. FURTHERMORE, they are built rugged enough to stand up under forced service, and the pressure of busy seasons.

There is a wonderful opportunity for live dealers in fertile territory for the sale of Rainier Trucks. Sales resistance is small, profits are good, a big organization is behind you. Write today for information about the Rainier Dealer's proposition.

RAINIER MOTOR CORPORATION

Salesrooms:
227 West 58th Street, New York City
Factory: **Flushing, Long Island, N. Y.**

HIGHLAND STANDARD BODIES AND CABS



THE HIGHLAND BODY MFG., CO.

CINCINNATI **OHIO**

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LEE TRAILERS

Make Motor Trucks Pay

If one of your customers asks your opinion about trailers, are you prepared to give him a good trailer talk?

No matter whether he will ever be a truck prospect again, you owe it to yourself to sell him a trailer if you can.

Why not be something more than a truck dealer? Be a transportation engineer and sell trailers incidentally.

Many truck dealers early realized the advantage of selling trailers. Their truck sales have increased.

A wise dealer sells trucks and trailers, preferably *LEE* trailers.

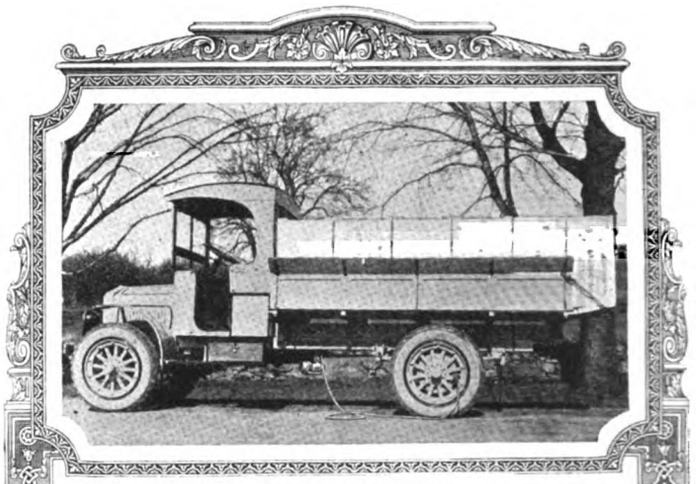
By doing so he makes two blades of grass grow where one grew before.

Send for Lee Line data sheets.

LEE LOADER & BODY CO.

Builders of Automotive Auxiliary Equipment

2337 So. La Salle St. Chicago



No Motor Truck or Motor Car is completely equipped that is not equipped with a Kellogg Engine-Driven Tire Pump

You Can Judge a Motor Truck or Motor Car by the Pump it Carries

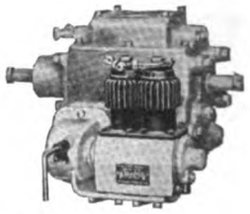
JUST as the strength of the chain is no greater than that of its weakest link—so the quality of a motor truck or motor car is no greater than that of the parts of which it is composed.

A KELLOGG Engine-Driven TIRE PUMP on a truck or car is an indication of the highest standard of quality—proof of the manufacturer's purpose to build into his product only the best parts obtainable.

For years the Kellogg Manufacturing Company has enjoyed the distinction of leadership in the manufacture of tire pumps. Practically all of the leading motor trucks and motor cars manufactured today are equipped with KELLOGG PUMPS as standard equipment.

KELLOGG PUMPS save costly time, reduce tire costs and increase the comfort of motoring. Without them it would not be possible to equip trucks with pneumatic tires.

CAUTION
Make sure your Motor Truck or Motor Car is equipped with a KELLOGG Engine-Driven TIRE PUMP



KELLOGG MFG. CO., Rochester, N.Y., U.S.A.

KELLOGG TIRE PUMPS

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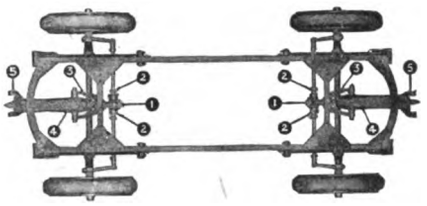

Study These Five Points of SUPERIORITY

(exclusive BYRON construction)

1. Ball-and-socket joint, keeping steering gear in perfect alignment and preventing swaying when trailer goes over bumps and ruts or when frame is rocked from side to side.
2. Enclosed heavy coiled spring connection between steering gear and axle, absorbing all road shocks and preventing bending of steering arms when any wheel strikes an obstruction.
3. Swinging steering arm that connects steering parts on axle to steering parts on frame, swinging parallel to action of springs and keeping steering gear in alignment regardless of spring deflection.
4. Independent steering arm connection steering gear to drawhead or to frame, as required, and allowing trailer to be steered by hand independently of drawbar whether going forward or backward
5. Drawhead connection locking drawbar in place automatically without loose parts, so that when trailer is once attached to truck it cannot possibly become disconnected by accident.

BYRON TRAILERS cut hauling costs and increase truck efficiency

BYRON TRAILERS are designed and built so as to become an integral part of every motor truck with which they are used. The exclusive, patented construction of the BYRON steering mechanism definitely solves the problem of quick, easy and safe handling of the trailer, either in going forward or back. In hard, daily service under all conditions of use, BYRON TRAILERS prove their value as a money-making and money-saving investment.

BYRON TRAILERS are built in 4-wheel reversible, semi-trailer and pole types to fit any hauling requirement. Choose the style needed and write for descriptive literature and the name of the nearest BYRON dealer.

The BYRON selling-franchise is a splendid opportunity for live, energetic dealers. Some good territory is still open. Write.

BYRON ENGINEERING WORKS

INCORPORATED

General Offices and Factory:
LOUISVILLE KENTUCKY

PATRIOT Motor Trucks

"It is with great pleasure," wrote J. G. Uzzell, Lamar, Colo., Jan. 19, 1920, "that I am enclosing you this photo of a check for a load of grain which I hauled a few days ago on my 2½-ton Patriot. I drove the fifty miles from Springfield to Lamar partly after dark through mud and snow 12 to 18 inches deep in places, in three hours and thirty-five minutes. Do not think that this load is anything out of the ordinary, because I am hauling these kinds of loads every day. Yesterday I had 7500 pounds on my truck and towed a 6000-pound tractor thirty miles through mud hub deep in places."

PATRIOT MOTORS COMPANY

Manufacturers

1419 P Street **Lincoln, Nebraska**

Revere Model	Lincoln Model	Washington Model
1500 to 2500 lbs. Capacity	3000 to 5000 lbs. Capacity	5000 to 7500 lbs. Capacity

STATEMENT OF THE OWNERSHIP, MANAGEMENT, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912

Of The Power Wagon, published monthly at Chicago, Ill., October 1st, 1920.
State of Illinois, County of Cook—ss.

Before me, a Notary Public in and for the state and county aforesaid, personally appeared Walter Wardrop, who, having been duly sworn according to law, deposes and says that he is the business manager of The Power Wagon, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers, are:
Publisher, The Power Wagon Publishing Co., 544 Lake Shore Drive, Chicago, Ill.
Editor, S. A. Phillips, 544 Lake Shore Drive, Chicago, Ill.
Managing Editor, Walter Wardrop, 544 Lake Shore Drive, Chicago, Ill.
Business Manager, Walter Wardrop, 544 Lake Shore Drive, Chicago, Ill.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.)
The Power Wagon Publishing Company, 544 Lake Shore Drive, Chicago, Ill.
Walter Wardrop, 544 Lake Shore Drive, Chicago, Ill.
S. A. Phillips, 544 Lake Shore Drive, Chicago, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)
None.

4. That the two paragraphs next above, giving the names of owners, stockholders, and security holders, if any, contain not only the list of stockholders, and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders, who do appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest, direct or indirect, in the said stock, bonds or other securities than as so stated by him.

WALTER WARDROP, Business Manager.

Sworn to and subscribed before me this 25th day of September, 1920.

RAYMOND R. OLSON, Notary Public.

(SEAL) (My commission expires March 28, 1923).

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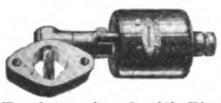
PIERCE GOVERNORS

"One Motor Truck On The Job Is Worth Two Trucks In The Repair Shop"

Keep Your Trucks On The Job



Trucks equipped with Pierce Governors cannot be driven at reckless speeds. They are therefore longer lived, make fewer trips to the repair shop, and can be operated more economically.

That is why "103" Truck Manufacturers supply Pierce Governors as regular equipment.

The Pierce Governor Company
WORLD'S LARGEST GOVERNOR BUILDERS
Anderson-Indiana
U·S·A·

WOOD DETROIT

HYDRAULIC HOISTS AND Steel Dumping Bodies

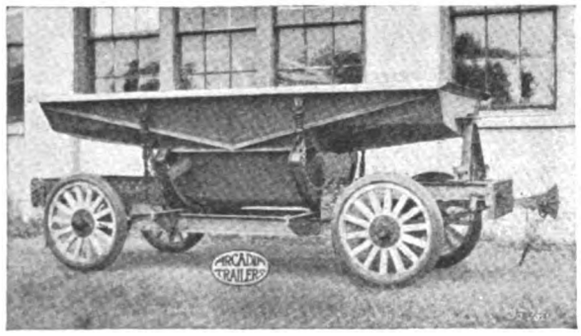
manufactured by

Wood Hydraulic Hoist & Body Company

Main Factory
1026 Bellevue Avenue
Detroit, Michigan

Branches

New York	Chicago	San Francisco
721 E. 135th St.	2911 Indiana Ave.	441 Folsom St.



CLEAN YOUR CITY
WITH
ARCADIA TRAILERS

Write for Special Circulars

WE BUILD

A Trailer for Every Trade

One to Six Tons Capacity

Trailerize Your Trucks With Arcadia Trailers

Write for Trailer Information

Arcadia Trailer Corporation

23 Murray Street

Newark, New York State

"JASCO" SAFETY FIRST TANK

WHEN you see a "Jasco" Tank on a car you can recognize it at once as a quality car. That the manufacturer is buying the best that can be had—a tank which can't leak, a tank which "stands up" strongest where service is hardest. A tank that means lasting service, positive protection and greater fuel economy.

Made of seamless drawn steel, tested and proved—perfect in every detail of construction. Send for booklet and detailed information.

We are prepared to handle contracts for deep drawn steel work. Send specifications.

Janney, Steinmetz & Company

Main Office: Philadelphia

New York Office: Hudson Terminal Building

Please mention "Power Wagon" when writing to advertisers.

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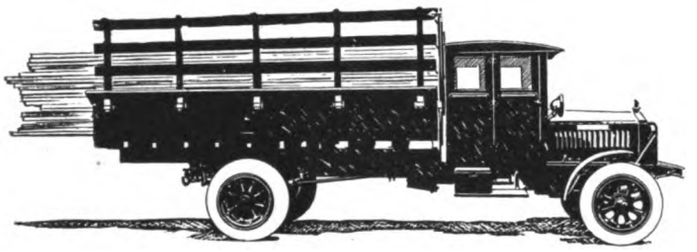
REYNOLDS
Quality Motor Trucks

BECAUSE of a broader dealer proposition which insures you more profit—because of a more liberal advertising plan which directs publicity on YOUR clients—because of a good company which will bear your most critical investigation, and because of a fully equipped truck which is good in every feature, the Reynolds line presents one of the most attractive distributor and dealer propositions of the day.

1½ to 5 Tons Net Load



Reynolds Motor Truck Co.
Mt. Clemens Michigan

Commerce TRUCKS

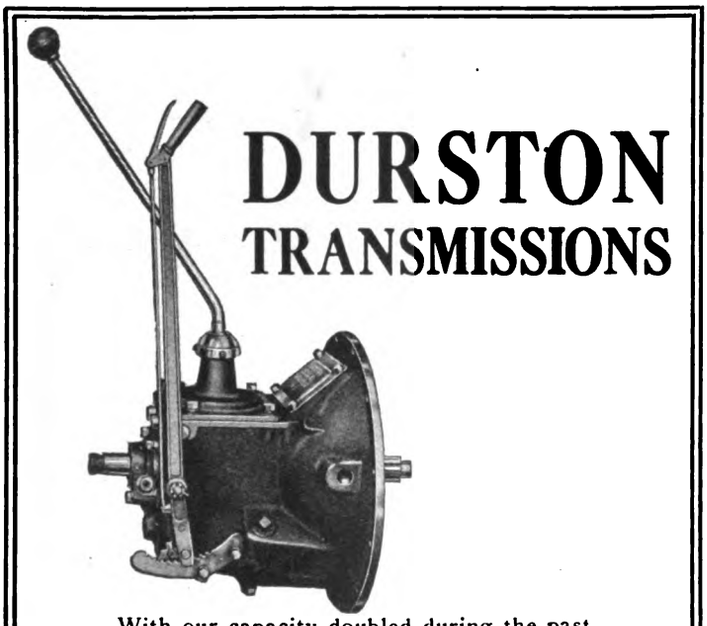
There isn't a franchise on the market today that is more fair and liberal to the dealer.

There isn't a truck in the field today that offers greater possibilities than the Commerce.

There isn't another truck built that has as many nationally advertised and favorably known standard units as the Commerce in its construction.

Everything is in its favor—demand, capacity, price, its reputation and stability of the manufacturer and money-making dealers back of it.

The Commerce Motor Car Company
10th Year Manufacturers of Motor Trucks
DETROIT, MICHIGAN



DURSTON TRANSMISSIONS

With our capacity doubled during the past few months, we are now in large production on transmissions suitable for trucks up to one-ton capacity or speed wagons.

Our present designs and production methods are the result of years of development. We are in a position to deliver transmissions that are RIGHT in every particular. Your inquiries are solicited.

DURSTON GEAR CORPORATION
SYRACUSE, N. Y.

THREE B
BBB
BLOOD BROTHERS MODEL B
UNIVERSAL JOINTS

In the Front Ranks of Proved Units

Discriminating automotive engineers are only interested in proved units. Hence: the immediate adoption of Model B Universal Joints.

Oil is force fed to Oversize Bearings by centrifugal action, insuring positive, constant lubrication and dependable performance. A single opening feeds entire Model B joint.

No companion flanges required. Bushings are completely supported.

Full details on request

Blood-Bros. Machine Co.
Pioneer Builders of Universal Joints
Allegan F. Somers Peterson Co. San Francisco, California Western Representative **Michigan**

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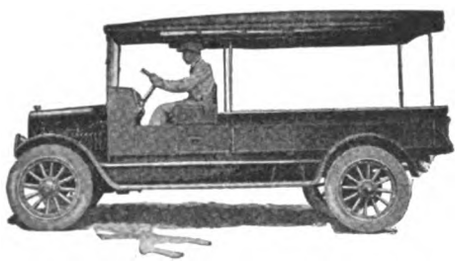
WATSON
MOTOR TRUCKS

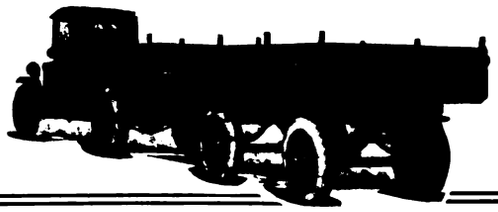
¾-1 Ton 3½ Ton

Road Tractor *Trailers*

WATSON HAULAGE SYSTEMS MOTOR TRUCKS

Watson Products Corporation
Main Office and Factory
Canastota, N. Y.





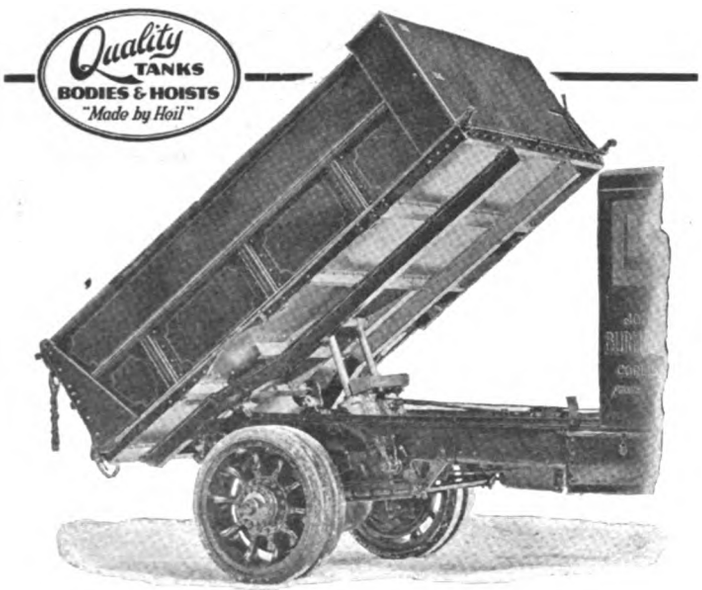
E. & W. MILWAUKEE

Get the Particulars about this Particular Trailer

Write right away for illustrated details of the E & W TRAILER, the reputation-making trailer, the non-swaying, non-shaking, RADIUS ROD, true track TRAILER. Get your inquiry in the mail now.

E. & W. Manufacturing Co.
MILWAUKEE, U. S. A.

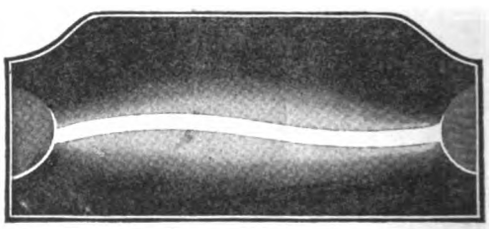
Quality TANKS BODIES & HOISTS "Made by Heil"



COMBINATION BODIES AND HYDRO HOISTS FOR VARIED HAULING NEEDS.

The quick adaptability of this equipment to every hauling need has caused its widespread use. Bodies are tapered, furnished with removable sides and double acting tail gate. The Hydro Hoist makes it possible to dump a load on a side grade. This is just one of the many superior features of Hydro Dumping Equipment discussed in Circular 113. **Write for it today.**

THE HEIL CO.
1140 Montana Avenue **Milwaukee, Wisconsin.**



the white hot "juice" you want, when you want it—and every time!

THE EISEMANN MAGNETO CORP.
32 Thirty-Third Street
Detroit **BROOKLYN, N. Y.** **Chicago**

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THIS tag is the sign of the "Tenth Year Federal." It is attached to every Federal truck purchased this year and is significant of the experience and responsibility of a company that, in the past ten years, has produced more than 50,000,000 dollars worth of successful motor trucks.

FEDERAL MOTOR TRUCK CO.
DETROIT, MICHIGAN

Victor

1½ and 2½ tons

The Victor worm drive motor truck is designed to stand rough usage and to give long and continuous service. That it is doing this is evidenced by repeat orders and its large number of satisfied users.

Victor dealers have the satisfaction of knowing that the Victor will make good on every claim that is made for it.

Your territory may still be open.

Write for particulars.

Victor Truck Company
St. Joseph Michigan

GOODYEAR
CORD TIRES

SAVE DRIVERS, LOADS, TRUCKS AND ROADS

A Grip that Never Slips

Applied in Two Minutes

With transportation tie-ups everywhere, shippers must get the full use from their trucks. Costly delays on the road must be eliminated.

There is a sure and inexpensive way to keep trucks operating on schedule in any kind of weather and over the worst roads. It is Giant Grip Traction Equipment for Motor Trucks.

Mud, soft sand, snow and ice can stall the most powerful trucks if efficient traction is not provided. But with Giant Grips mud-hole lay-ups and time out for bad roads can be ended.

Clamps are permanently attached to the wheels and chains kept in tool box until needed. At a bad stretch of road these cross-chains are quickly hooked on and the truck has absolute traction. Two minutes' time and his hands are all the driver needs. No tools—no jacking up the wheels.

A Style for Every Type of Wheel and Tire

The Giant Grip line includes a style for any truck, no matter what wheel and tire equipment is used. Yet the dealer has but few models to carry in stock. Broadcast advertising makes quick turn-over sure. Write to us for particulars.

Giant Grip Mfg. Company
Established 1863 Dept. 25 Oshkosh, Wisconsin
Formerly Named Challoner Company

New York Distributors:
SHULTIS AUTOMOTIVE CORPORATION, 16-22 W. 61st Street, New York City

Giant Grip

Traction Equipment for Motor Trucks

Please mention "Power Wagon" when writing to advertisers.

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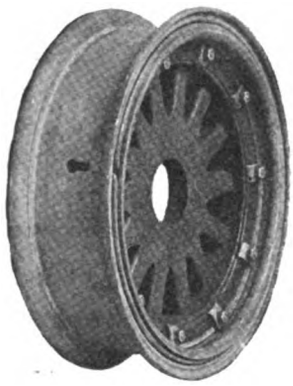
WHEELS AND RIMS

FOR PNEUMATIC TRUCK TIRES



We furnish promptly, any sizes from 32 x 4½ inch to 42 x 9 inch and to fit the hubs of ANY MAKE OF TRUCK.

Send for Price List D

LUVERNE MOTOR TRUCK CO.

LUVERNE, MINN.

Manufacturers of Truck Parts

RADIATOR INSURANCE

GUARANTEED FOR THE LIFE OF THE TRUCK

These Seamless Helical Tube Cooling Sections are perpetual insurance against radiator trouble.

Write for complete information.

Rome-Turney Radiator Co.

Rome, New York, U. S. A.

Safety

"M & E" Ratchet Locked GREASE CUPS

(Patented)

The interior of the "M & E" Ratchet Top Grease Cup.

The tops will not loosen or rattle off. They stay where they are put, cannot get out of order, and are very durable.

Only **three** parts enter into the construction; shank, top and spring.

Made of Steel, Metal Plate and Brass Plate, in various sizes.

SEND FOR SAMPLE AND PRICES.

MERCHANT & EVANS Co

NEW YORK PHILADELPHIA WHEELING
BALTIMORE CLEVELAND
LANCASTER, PA. DETROIT
ATLANTA CHICAGO
KANSAS CITY

The K. & L.

EFFICIENT and DURABLE RADIATORS

The ACE of Radiators

INVESTIGATE

Send for samples and report on preliminary tests—then send us your B-P's and engine data and let us prescribe for your particular wants and give you our quotations.

We manufacture all sizes and shapes of cores for all purposes. We also build all styles of complete radiators.

THE K. & L. RADIATOR MFG. CO.

618-24 Turner Street, ALLENTOWN, PA.

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United States Motor Trucks

FLOATING POWER PLANT

As Good As The Name

Seven models

Five worm-drive

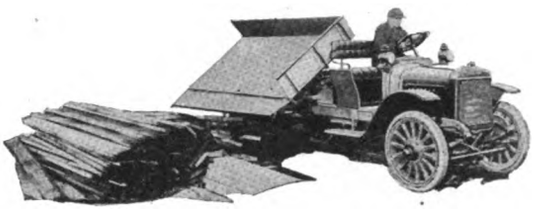
Two with Clark axles

1½ to 6 tons capacity

THE UNITED STATES MOTOR TRUCK CO.
Incorporated
Cincinnati Ohio

DEALERS -- DEALERS

Get after the Side-Dump Body Business and increase the output of Trucks.



DUMPED
with an
AUTOMATIC SIDE-DUMP BODY

To increase the Sales of Trucks put on a Side Dump Body and Watch your Business Grow.

Dumps in any weather.
Will outwear any truck.
No lost space back driver's seat.
Can't break down and get out of order.
Dumps a 3 yard load in a minute and a half.
Dumps all the load off without operating Truck.

Fits Any Chassis

Write for attractive Dealers' Contract.

AUTOMATIC DUMP CAR COMPANY
Sales Dept. A
1701 Ernsperger Avenue, South Bend, Ind.

THE Sanford MOTOR TRUCK

Sanford Trucks owned by the Crucible Steel Company of America

Is This *Your* Idea of "Service"?

To serve the true interests of your customers—

To carefully analyze their needs and recommend the type of truck that will most economically meet their requirements—

To actively follow up the performance of the trucks and see to it that customers get 100% satisfaction from their purchases?

If that is your idea of "Service," then there is a place for you in the Sanford Dealer organization—if your territory is still open.

Write—and we will tell in detail our idea of "Service" to our Dealer friends.

Sanford WORM DRIVE

Models:
2½
3½
5 Ton

Sanford Motor Truck Co., Syracuse, N. Y.

PNEUMATIC TRUCK TIRES

Write if Interested!

Splendid selection of factory-blemished and surplus stocks from the better Akron factories

The Rubber City Clearing House Co.
AKRON, OHIO.

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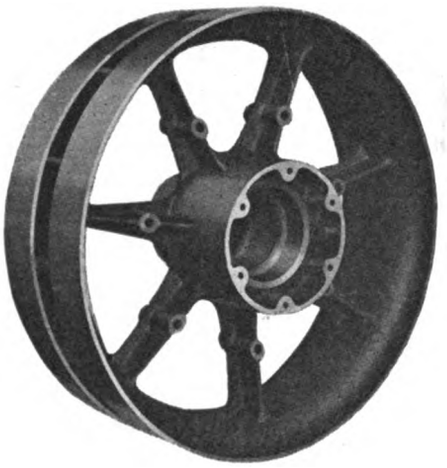
WEST
Cast Steel Wheels



Hubs Cast Integral
Any Make of Axle
Any Make of Tire

Specify West Cast Steel Wheels On Your Next Truck Order

THE WEST STEEL CASTING CO.
Cleveland, Ohio

New York	Chicago	Detroit
1790 Broadway		205 Kresge Bldg.

"Watch the WEST STEEL WHEELS Go 'Round"

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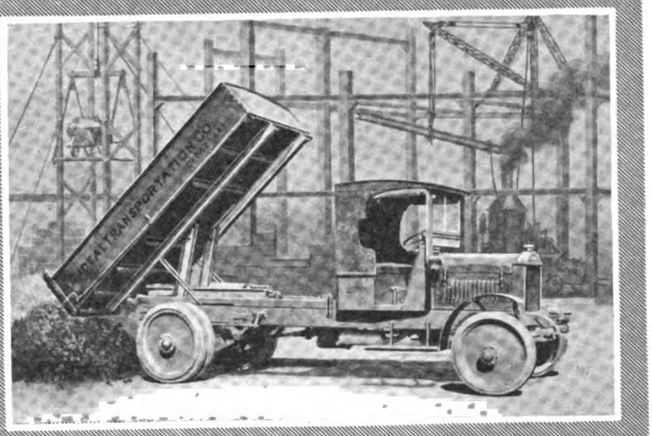

In Service—

The day after day positive performance, never-failing action, absolutely dependable ability of

HORIZONTAL HYDRAULIC

DUMPING UNITS

to deposit any load exactly where it is wanted—to save time and labor—to increase motor truck efficiency—are *facts* that have won the approval of most of America's prominent motor truck manufacturers.

Horizontal Hydraulic Hoist Co.
35 Twenty-fifth St., Milwaukee, Wisconsin
SALES AND SERVICE STATIONS
Chicago: 3755 Wentworth Ave.
Detroit: 605 Gratiot Ave.

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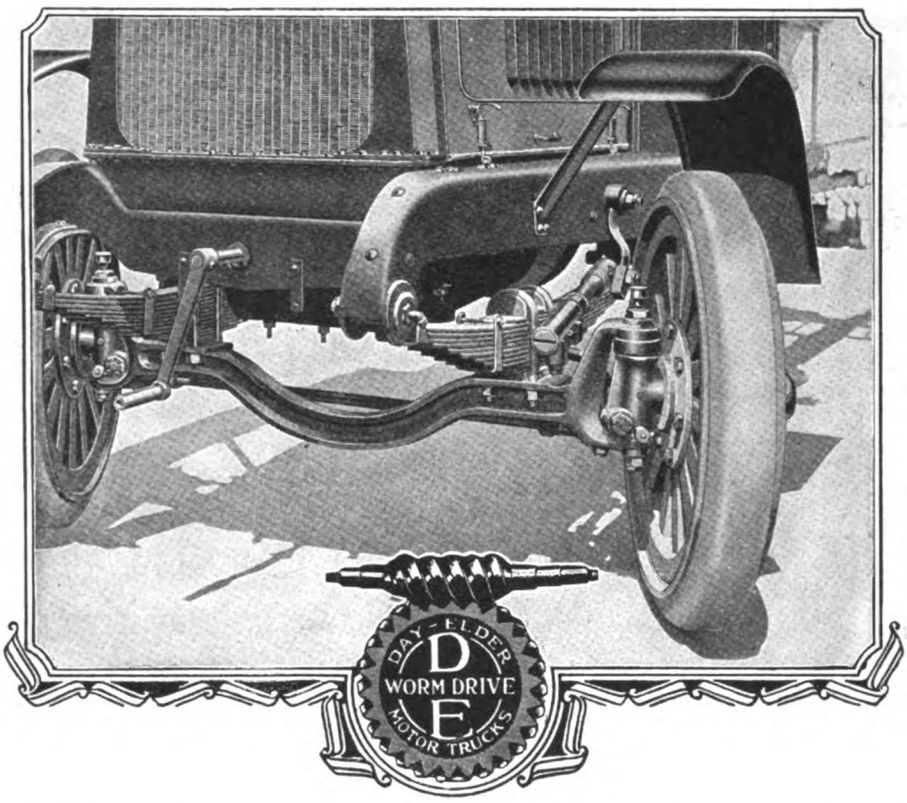

Model A
1-1½ tons Capacity Including Weight of Body
3500 Pounds

Model B
1½-2 tons Capacity Including Weight of Body
4500 Pounds

Model D
2-2½ tons Capacity Including Weight of Body
6000 Pounds

Model C
2½-3 tons Capacity Including Weight of Body
7000 Pounds

Model F
3½-4 tons Capacity Including Weight of Body
9000 Pounds

Model E
5-6 tons Capacity Including Weight of Body
14,000 Pounds

BESIDES a substantial percentage of profit, far-sighted motor truck dealers today are demanding two other sales qualities in the truck they sell.

The dealer who is planning a business that will last and increase in volume is now insistent on (1st)—A motor truck of such outstanding value that it will, of itself, create a high percentage of repeat orders; (2nd)—A motor truck that gives such high investment value because of its low first cost, maintenance cost and durability, that first sales are frequent and easy against *any* competition.

These three requirements which the modern substantial motor truck dealer demands in a truck—profits, automatic "repeats" and investment value—are prominent DAY-ELDER sales characteristics.

You'll find the repeat sales percentage of DAY-ELDER trucks unusually high. And you'll find that DAY-ELDER trucks have the same quality materials and the same power of stamina, endurance and performance that are to be found in the most expensive worm-drive trucks.

Yet the average price of all DAY-ELDER models is markedly lower than that of any other worm-drive trucks of the same carrying capacity.

This super-value is inherent in DAY-ELDER methods of production and merchandising.

One conspicuous reason why DAY-ELDER trucks are the soundest investment of their kind, is the fact that every dollar of the prices paid is represented by its full share of value in the trucks themselves. It is not decimated to meet the burdens of speculative publicity, excessive selling costs or extravagant overhead.

Experienced dealers are appreciating the value of the DAY-ELDER franchise today as never before. Write for particulars.

MEMBER OF THE MOTOR TRUCK MANUFACTURERS ASSOCIATION — MTMA

DAY-ELDER MOTORS CORPORATION

FACTORY: NEWARK, N. J., U. S. A.

Southwestern Sales Office: 1701 McGee St., Kansas City, Mo.

DAY-ELDER
Worm-Drive Motor Trucks

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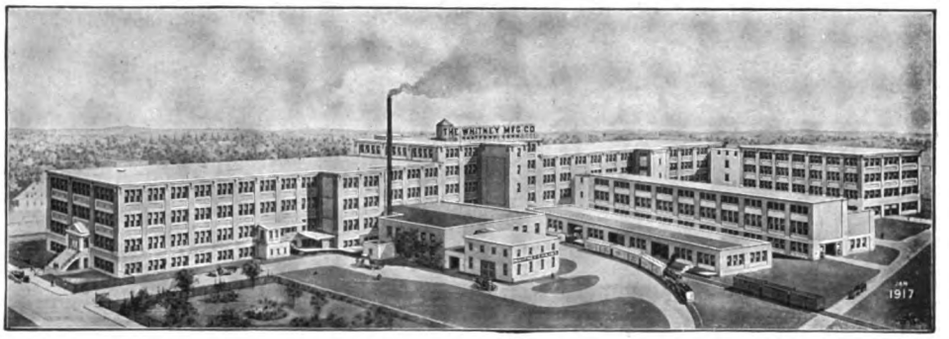
Roller Type



"WHITNEY" CHAINS

Equip Your Motor Trucks and Tractors with "Whitney" Chains

Now that the motor truck is handling so much of the freight that was formerly cared for by the railroads, it must run on a schedule almost as exacting as that of the railroad train itself. This emphasizes the necessity of selecting a chain which can be relied on under all conditions of speed, road and weather.

THE WHITNEY MFG. CO.

HARTFORD, CONN.

Chains **Keys and Cutters** **Hand Milling Machines**

Silent Type

"The Spring is the Thing"

MATHER SPRINGS

Scientifically Heat-Treated

Unequalled For

Lightness, Flexibility and Endurance

Genuine made only by

THE MATHER SPRING COMPANY

Toledo, Ohio.

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Stewart
MOTOR TRUCKS

Stewart Trucks have won—
By costing less to run!

QUALITY and Economy have brought Stewart success. For Stewart Trucks built eight years ago are still working and earning; making money for their owners; building up a reputation now world-wide. The very first ones made still serve the needs of trade.

More than a million dollars a month are being paid for Stewarts. Quality reputation brings more orders each month, each year. Factory capacity has been doubled, and deliveries are made promptly. Stewarts are made in six capacities, to meet the requirements of all lines of business.

STEWART MOTOR CORPORATION
BUFFALO, N. Y.

¾-Ton

1-Ton

1½-Ton

2-Ton

2½-Ton

3½-Ton

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POWER WAGON

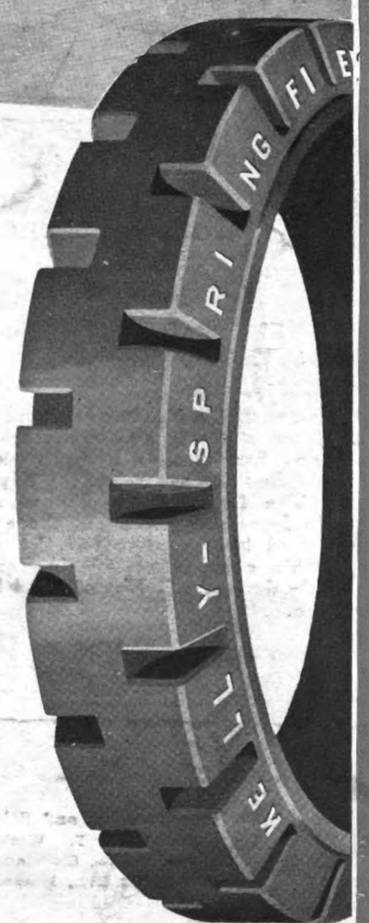
Number 192 CHICAGO, NOVEMBER, 1920 Price 50 Cents

"The most perfect truck tire made"—

That is what the General Manager of the Omaha Clay Works calls the Kelly Caterpillar.

His company tried out a set of Caterpillars on the 5½-ton Packard truck pictured above, and after six months of use during the most severe winter Omaha ever had, carrying full loads where hauling conditions were the worst in the city, the tires had given such satisfactory traction that the sentiment quoted was expressed in a letter.

That Mr. Hansen is not alone in his belief is evidenced by the growing number of fleets on which Caterpillars are being made standard equipment.



Kelly-Springfield Tire Co.
GENERAL SALES DEPARTMENT
1710 Broadway New York

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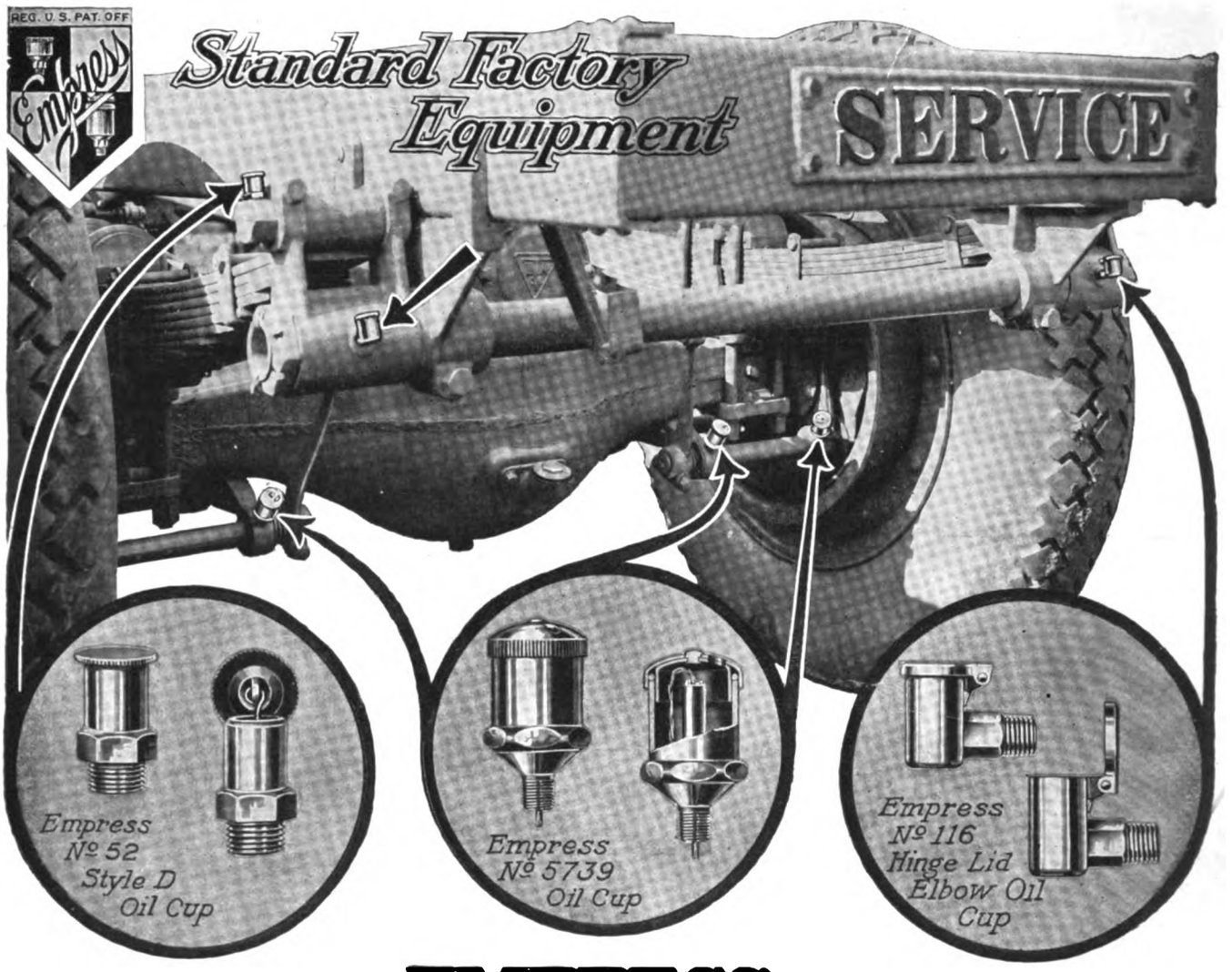
REG. U. S. PAT. OFF
Empress
Standard Factory Equipment
SERVICE
Empress No. 52 Style D Oil Cup
Empress No. 5739 Oil Cup
Empress No. 116 Hinge Lid Elbow Oil Cup

EMPRESS GREASE and OIL CUPS

Dominant factors for perfect lubrication on the thousands of SERVICE motor trucks in daily use

EMPRESS No. 52 STYLE D OIL CUPS

This cup, as used here, is one of the larger sizes of the No. 52 oilers and is made from steel; is also made from brass and furnished in nickel plated and polished brass finishes. Eight sizes. The flip cover makes oiling possible from any direction, the cup is operated by the spout of the oil can. This oiler is self-closing and positively dust-proof. Not affected by vibration.

EMPRESS No. 5739 WICK FEED OIL CUPS

Of the wick feed reservoir type, this cup provides a constant regulated flow of oil which flushes grit from the bearings and keeps them well lubricated at all times.

Made in two sizes from both brass and steel; furnished in Nickel Plated and Rough Steel and in Nickel Plated and Polished Brass finishes. Dust-proof. Not affected by vibration.

EMPRESS No. 116 HINGE LID ELBOW OIL CUPS

A strong well made hinge lid oiler, pressed from rolled sheet steel, will give long service, standing up under all kinds of usage. Its large unobstructed oil passage makes this cup suitable for packing with waste if desired.

Made in three sizes: 9/16 in., ¾ in. and ⅞ in. diameter of body. Nickel Plated and Rough Steel finish. Self-closing and dust-proof.

Write for Catalog R

BOWEN PRODUCTS CORPORATION

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Auburn Div., Auburn, N. Y. Winkley Div., Detroit, Mich.
Zerk Div., Cleveland, Ohio.
Minneapolis Div., Minneapolis, Minn.

Branch Sales Offices

New York, 220 Broadway. Chicago, 1607 Otis Bldg.
San Francisco, Monadnock Bldg.
Boston, 903 Dexter Bldg. Cincinnati, 409 Lyric Bldg.

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The Truck That Named Itself

Hereafter the truck, which was at first announced as the Akron Speedwagon, will be known as the

Akron Multi-Truck

Announcements concerning the new truck which is being produced by The Thomart Motor Company have emphasized the fact that this truck occupies a position all its own in the market, combining quality and serviceability to a degree heretofore unknown in a single truck model.

That it is a truck with the multiplied service range of several trucks—in short, a multi-truck.

So logically has that name—multi-truck—been developed by the character of the product itself, and so aptly does it describe this truck's new standard of transportation efficiency, that The Thomart Motor Company has adopted it.

The Akron Multi-Truck multiplies efficiency by meeting 75% of all trucking needs.

Progressive springs account for its great load range. The character of design affords economical operation under loads varying from ¾ to 1 ton, there being an inbuilt overload capacity. Capable of a speed of 30-35 miles per hour with full load. It is pneumatic equipped.

Distributors and Dealers Are Now Being Appointed

THE THOMART MOTOR COMPANY

FACTORY: - - - - KENT, OHIO

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"NORMA"

PRECISION BALL BEARINGS

(PATENTED)

NEVER yet has anyone arranged a successful compromise between price and quality. Manufacturers with an established reputation to maintain never attempt it. Today—as for years past—"NORMA" Bearings are the accepted standards in the magnetos and lighting generators which dominate their fields by virtue of sustained high performance. It is a question of quality, pure and simple.

See that your electrical apparatus is "NORMA" equipped.

THE NORMA COMPANY OF AMERICA

Anable Avenue
Long Island City
New York

Ball, Roller, Thrust and Combination Bearings

POWER WAGON

An exponent of the most enlighened thought and practice of the motor truck industry.

Published monthly by

THE POWER WAGON PUBLISHING COMPANY

544 Lake Shore Drive, Chicago, U. S. A.

Entered as second-class matter December 2, 1907, at the post office at Chicago, Illinois, under the Act of Congress of March 3, 1879.

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VOL. XXV. NOVEMBER, 1920. No. 192.

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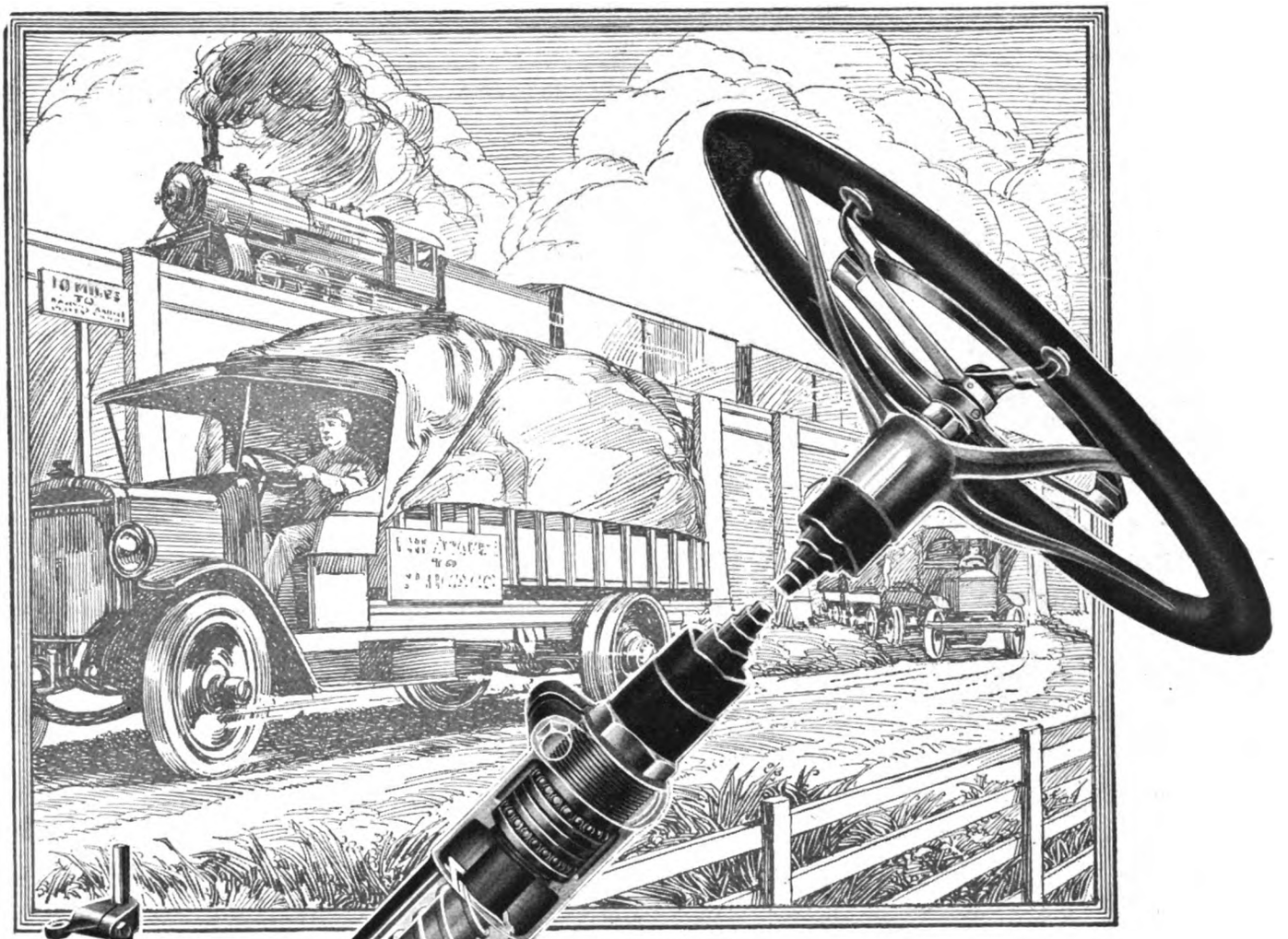

Ship by Truck FOR SHORT HAULS

Better Transportation
—The Nation's Vital Need

With rail facilities taxed to the breaking point, our biggest problem today is to relieve this strain and help transportation keep pace with industry and agriculture. Unquestionably the solution is the motor truck. Its worth has already been established, and the necessity for its use on a larger scale is becoming more and more apparent every day.

Ross Steering Gears have played an important part in making the motor truck a more efficient and reliable means of transportation. The easy steering, safety and reliability, which are guaranteed by the exclusive screw and nut design, have made Ross Steering Gears standard equipment on 418 different motor truck models from 165 different manufacturers.

Write for any further information desired

ROSS GEAR & TOOL COMPANY
780 Heath Street, Lafayette, Ind., U. S. A.

ROSS STEERING GEARS

THE STEERING GEARS THAT PREDOMINATE ON MOTOR TRUCKS

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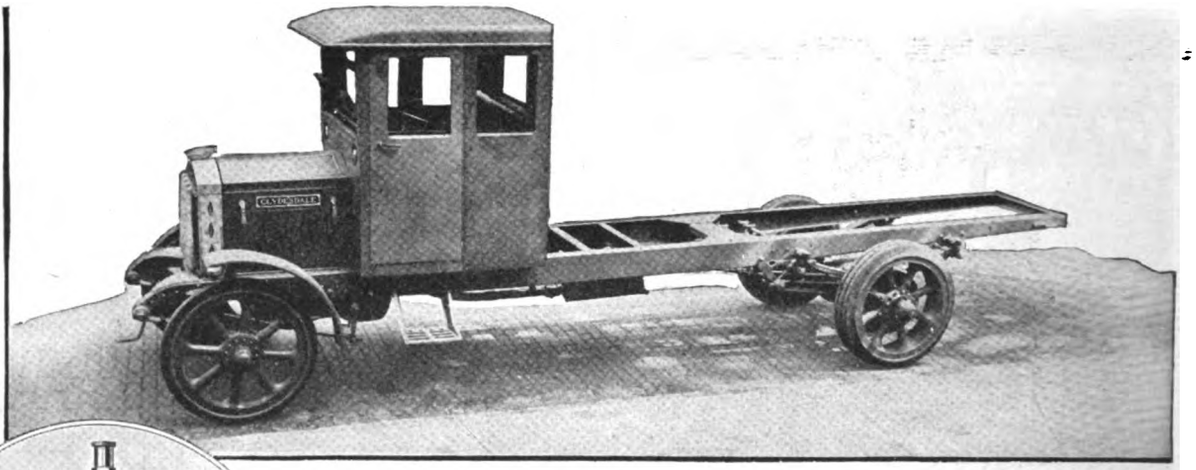
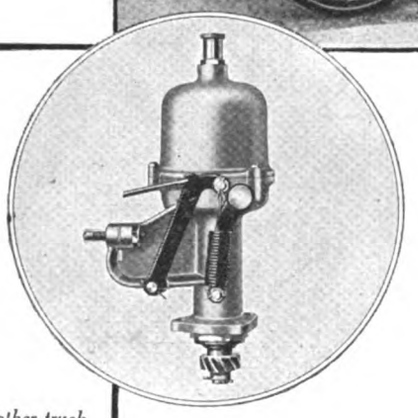




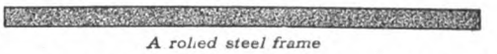
No other truck has it—"The Driver under the Hood."

A Distorted Frame Means a Crippled Truck

MR. Average Truck Buyer is apt to take truck frames for granted until he has trouble from overloading or road strain. Then he wakes up to the fact that there is just as much difference in frames as there is in motors, differentials, axles, or transmissions.

It is only fair that a man be told these things *before* he buys a truck instead of afterwards. That is one reason why the Clydesdale frame is made a distinct talking point with dealers

A Comparison Worth Noting



A rolled steel frame

The ordinary frame, made of *rolled steel*, is of the same depth throughout its entire length. Therefore, it is no stronger at any one point than at another. When heavily loaded, it is more likely to bend or sag at the middle, where the load bears hardest.

A Clydesdale frame

The Clydesdale frame is built like a truss. Made of pressed steel, it is shaped so that its channel is deeper at the points of greatest strain, giving strength where strength is needed, and lighter weight where strength would be superfluous. Furthermore, the Clydesdale frame, although gusseted at corners and cross members, is sufficiently pliable so that road shocks and load twists cannot cause permanent distortion.

Clydesdale frames mean longer life, less chance of parts getting out of alignment, and greater strength to meet the emergency.

THE CLYDESDALE MOTOR TRUCK COMPANY
CLYDE, OHIO

CLYDESDALE

MOTOR TRUCKS

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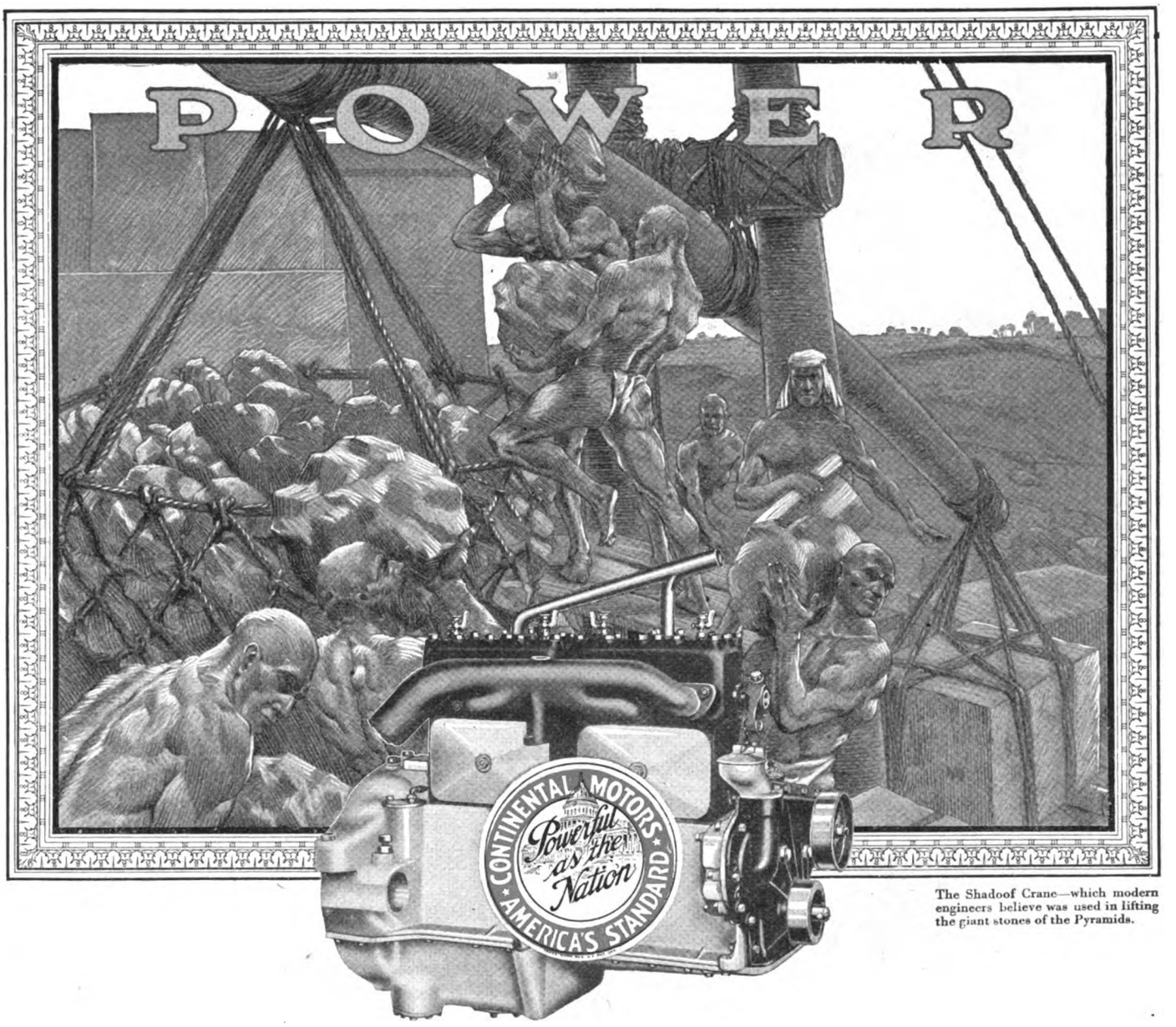

The Shadoof Crane—which modern engineers believe was used in lifting the giant stones of the Pyramids.

The vision that was responsible for the development of those basic mechanical principles has, in a sense, been inherited by the motor builder who makes use of these principles today. ¶ For where Continental Motors are produced, the vision of the directing minds of the organization encompasses the automotive needs of the future as well as those of the moment. And it is this foresight that insures to the motor world the CONTINUED elevation of the already high standards that are represented by the Continental Red Seal.

CONTINENTAL MOTORS CORPORATION

Offices: Detroit, U. S. A. Factories: Detroit and Muskegon

Largest Exclusive Motor Manufacturers in the World

Continental Motors

STANDARD POWER FOR TRUCKS, AUTOMOBILES AND TRACTORS

Please mention "Power Wagon" when writing to advertisers.

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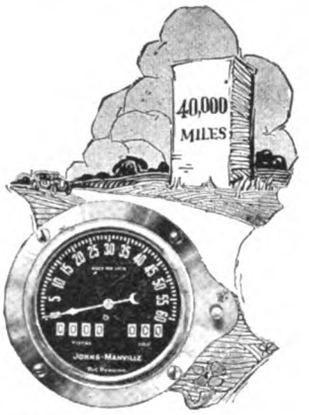
Is there an Aristocrat

IF pedigree determined the aristocrat of brake lining, Johns-Manville Non-Burn Asbestos Brake Lining would stand first, since its ancestry antedates the automobile itself.

But performance, far more than pedigree, marks the true aristocrat. Here again Johns-Manville Non-Burn Brake Lining is pre-eminent. Brakes are safer and last longer with Johns-Manville Non-Burn Asbestos Brake Lining.

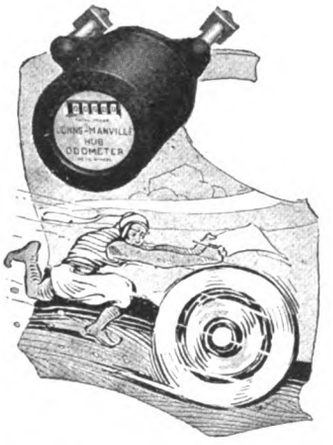


40,000 miles without a drop of oil!

That is a record that can be expected from every Johns-Manville Speedometer—a record made possible by nicety of gear construction and gear protection.

An expert accountant on the Hub.

The Johns-Manville Hub odometer enables the truck owner to keep accurate record of truck costs. Owners find a ready answer to the questions, How far? How fast? and How much?



Tape that stays sticky

If you have Johns-Manville Automobile Tape in stock now you may be sure that it is sticky. You can also be sure that it will be sticky a year from now, if you still have the same tape in stock—but you won't—it will be sticking to the job on somebody's car.

JOHNS-MANVILLE SERVICE COVERS THIS CONTINENT

Through—

Asbestos

and its allied products

JOHNS-MANVILLE
Serves in Conservation

Heat Insulations, High Temperature Cements, Asbestos Roofings, Packings, Brake Linings, Fire Prevention Products

JOHNS-MANVILLE AUTOMOTIVE

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among brake linings?

5 years in hot oil!

That is the existence that Johns-Manville Seigelite Packing contracts for as a gasket on crank or transmission cases. It resists the action of water and gasoline as well as oil through years of usefulness.

Meet Our New Baby

Here is a new Clutch Facing, an asbestos compound with remarkable wear-resisting and gripping power. Johns-Manville Asbestos Clutch Facing is specially made to fit disc clutches for practically every make of car that is so equipped

The Hero of twelve million explosions!

Gasketing a cylinder head for a couple of years, standing up under about twelve million explosions. It's all a part of the job that Service Sheet Packing does so well.

Safeguarding Automobiles.

The Noark Automobile Lighting Fuse is one that you can absolutely depend upon to protect your customers' automobiles. The name Noark means accuracy.

Noark Fuses are made either with glass or fibre tubes. Send for booklet listing American cars and size of fuses for each.

JOHNS-MANVILLE
INCORPORATED
Madison Avenue at 41st Street, New York City
10 Factories—Branches in 64 Large Cities
For Canada:
CANADIAN JOHNS-MANVILLE CO., Ltd.
Toronto

MANVILLE EQUIPMENT

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Mechanical Exactness of Parts Gives Long Life to the Transmission

THE sliding gears of a transmission must *move freely* but *without play*, or they will not operate properly. Even a slight binding on the shaft makes shifting difficult, while a loose fit causes an annoying rattle and uneven wear. Correct operation of Brown-Lipe gears is assured by most careful inspection tests of both shafts and gears.

The above illustration shows a shaft being tested, on table centres, for straightness and concentricity. The inspector carefully watches the gauge needle as he turns the shaft, and only those that meet the most exacting requirements are accepted.

It is to this exact measurement, as well as to excellence of design, material and manufacturing methods that Brown-Lipe transmissions and differentials owe their commanding position.

BROWN-LIPE
CHAPIN
DIFFERENTIALS

BROWN-LIPE GEAR CO.
TRANSMISSIONS

BROWN-LIPE-CHAPIN CO.
DIFFERENTIALS

Both at SYRACUSE, N. Y.

No. 17 of 40 Reasons for Superiority

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WARNER

HEAVY DUTY TRUCK TRAILERS

TWO AND FOUR WHEEL TYPES

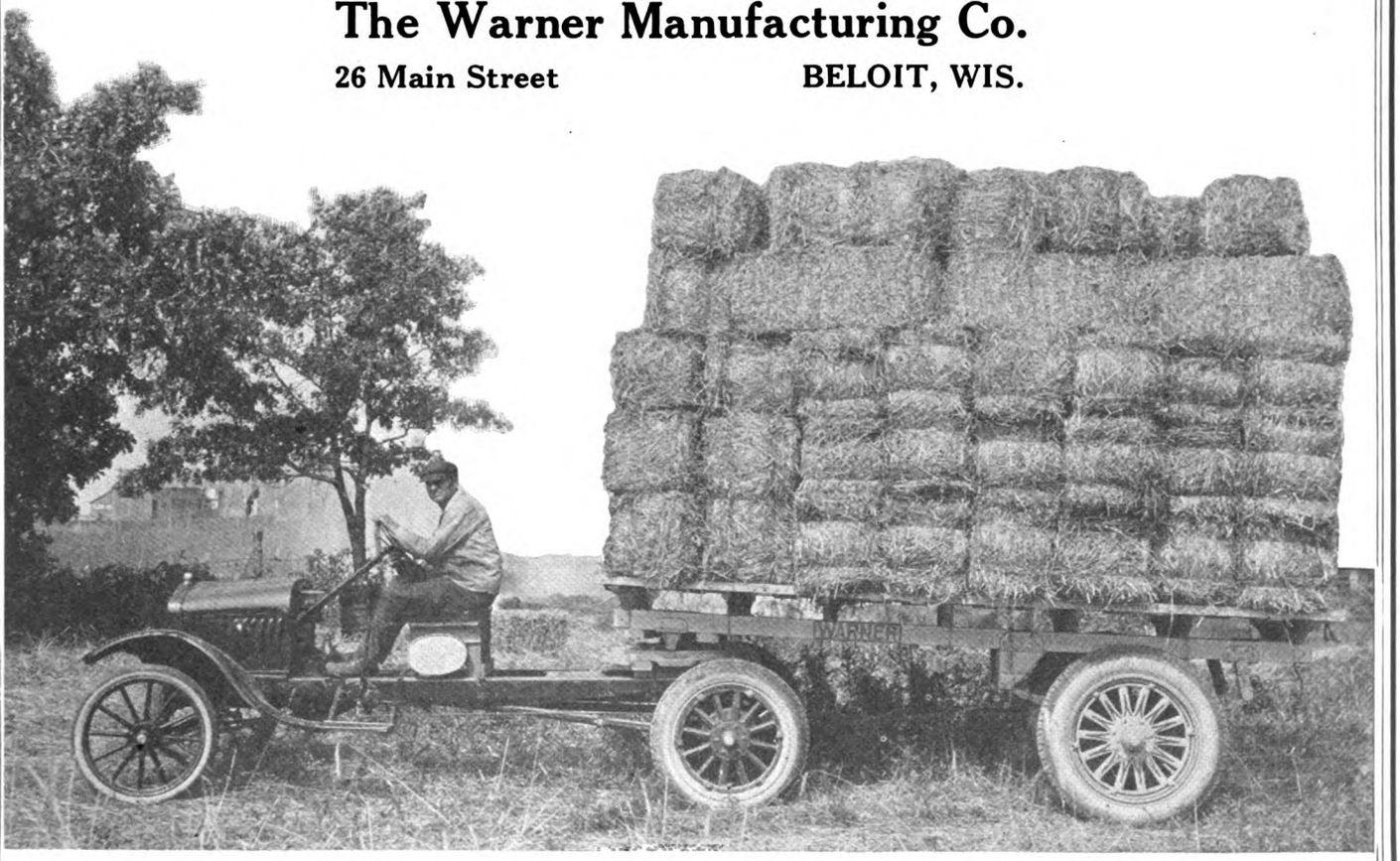
FOR every trucking need there is a Warner Trailer to make every truck more profitable. Warner Trailers shoulder the lion's share of the load. Built on the best truck construction principles to stand up under the hardest service with the best trucks.

Owners of light trucks will be interested in the Warner Model S-5, an extremely practical proposition that will handle a load of better than 4,000 lbs. Equipped with pneumatic tires. This Warner Trailer and a ¾ to 1 ton Truck creates practically a two ton truck at a very low investment figure.

A handy and economical hauling unit for merchant, manufacturer or farmer. Write for literature and full information on how to halve hauling costs.

The Warner Manufacturing Co.

26 Main Street BELOIT, WIS.



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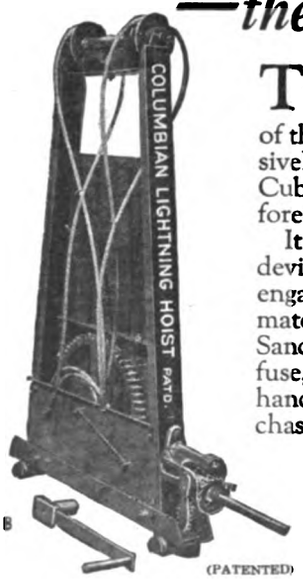
TRADEMARK

"Always On the Job"

A Columbian Lightning Hoist attached to a wooden body—One man handles a Five-ton load with ease

—the Hoist

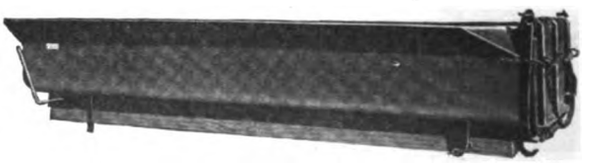


(PATENTED)

THE Columbian Lightning Hoist is in use in every part of the United States; also extensively used in Canada, Mexico, Cuba, Jamaica, Japan and other foreign countries.

It is a time and labor saving device for all concerns who are engaged in the hauling of loose materials such as Coal, Gravel, Sand, Crushed Rocks, Dirt, Refuse, etc. One man can easily handle a five-ton load. Fits any chassis—can be easily attached.

—the Body



THE Columbian All Welded Metal Dump Bed is the latest in dump body construction. Thru the use of this all welded method all rivets are eliminated, making a strong job for durability and hard usage.

Made in two standard models, straight sides and flared sides, with or without endgate.

Write us for illustrated folder No. 89 or

Write Your Nearest Distributor

Davenport Body Co., - Davenport Iowa, 1509-33 Rockingham Road
Hummel Mfg. Co., - St. Louis, Missouri, 3008 La Salle Street
Jules Mechanie - - Pittsburgh, Pa., 248 Croft Street
Giant Motor Truck Co., - Vancouver, B. C., Grandville Pac. Street
Largerquist Car & Auto Co., Des Moines, Ia., 514 West 2nd Street
S. S. Albright, . Sacramento, California, 13th & U Streets
Beard & Co., - Louisville, Kentucky, 418 Keller Building
Blackwell Motor Co., Spokane, Washington, Corner 3rd & Post Streets
Landes & Co., - - Salt Lake, Utah, 2nd. West and South Temple
Jacob H. Press & Sons, 300 Halstead Street, Chicago, Illinois

COLUMBIAN STEEL TANK CO.

"TANKS FOR THE WORLD" "ESTABLISHED IN 1894"

1519-1625 WEST 12th STREET KANSAS CITY, MISSOURI.

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McCORMICK
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International
MOTOR
TRUCKS
FOR LOW-COST HAULING
THERE ARE NINE SIZES OF INTERNATIONAL MOTOR TRUCKS: 3/4 TO 3 1/2 TON—BODY STYLES FOR EVERY BUSINESS
THE FURTHER YOU GET FROM ONE BRANCH HOUSE THE CLOSER YOU GET TO ANOTHER —THERE ARE 92 OF THEM IN THE U S A

International Motor Trucks

Motor trucks like that pictured on this page are known in every industry as thoroughly successful conveyors of loads. The distinctive hood indicates that this is the **International Motor Truck.** No truck dealer and no man with transportation problems does himself justice if he fails to seriously consider International. Address all inquiries to the Chicago office.

Motor Truck Department
International Harvester Company
of America
(Incorporated)
Chicago U S A

Branch Houses, Distributors and Dealers Everywhere

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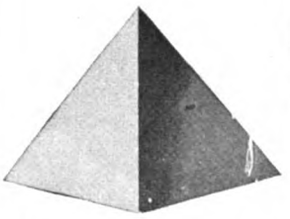

The Pyramid of Service

This is the new symbol adopted by the Service Motor Truck Company which will henceforth distinguish all Service Motor Trucks on the highways of the nation. Look for it on the radiator.

IT STANDS FOR— a quality truck in which the highest standards of automotive engineering practice are rigidly followed.

IT STANDS FOR— advanced thought and progressiveness which is today crystallized into SCIENTIFIC CUSHIONING, one of the most important developments in truck building.

IT STANDS FOR— Service in every sense of the word; the service guaranteed by inherent quality; the service guaranteed by the finest possible construction; the service guaranteed by a maintenance department which is the most complete, we believe in America.

Scientific Cushioning

A Complete Success
A Big Selling Feature

THE success of the Service system of SCIENTIFIC CUSHIONING is unmistakable and complete as a big selling feature for dealers.

By means of a scientific system of shock insulation the entire mechanism of the Service Motor Truck is scientifically cushioned at strategic points. Thus the severe strains and wrenchings due to the shifting of load-weights are counteracted.

The ruinous shocks and terrific stresses communicated through the axles to the transmission and engine are absorbed. Likewise the impacts caused by the loaded truck meeting bumps and ruts in the road; the shocks caused by the sudden application of brakes — of backing into curbs, etc., are softened by a yielding action.

Service Motor Trucks, protected by SCIENTIFIC CUSHIONING, are made in 7 models and 80 combinations of speed, power and capacity —giving dealer a complete line.

Service features are being continuously presented to the American public through powerful national advertising. Dealers who can give service to their customers and properly represent us should write for full information.

SERVICE MOTOR TRUCK COMPANY
Wabash, Indiana, U. S. A.

Service MOTOR TRUCKS

With the Red Pyramid on the Radiator

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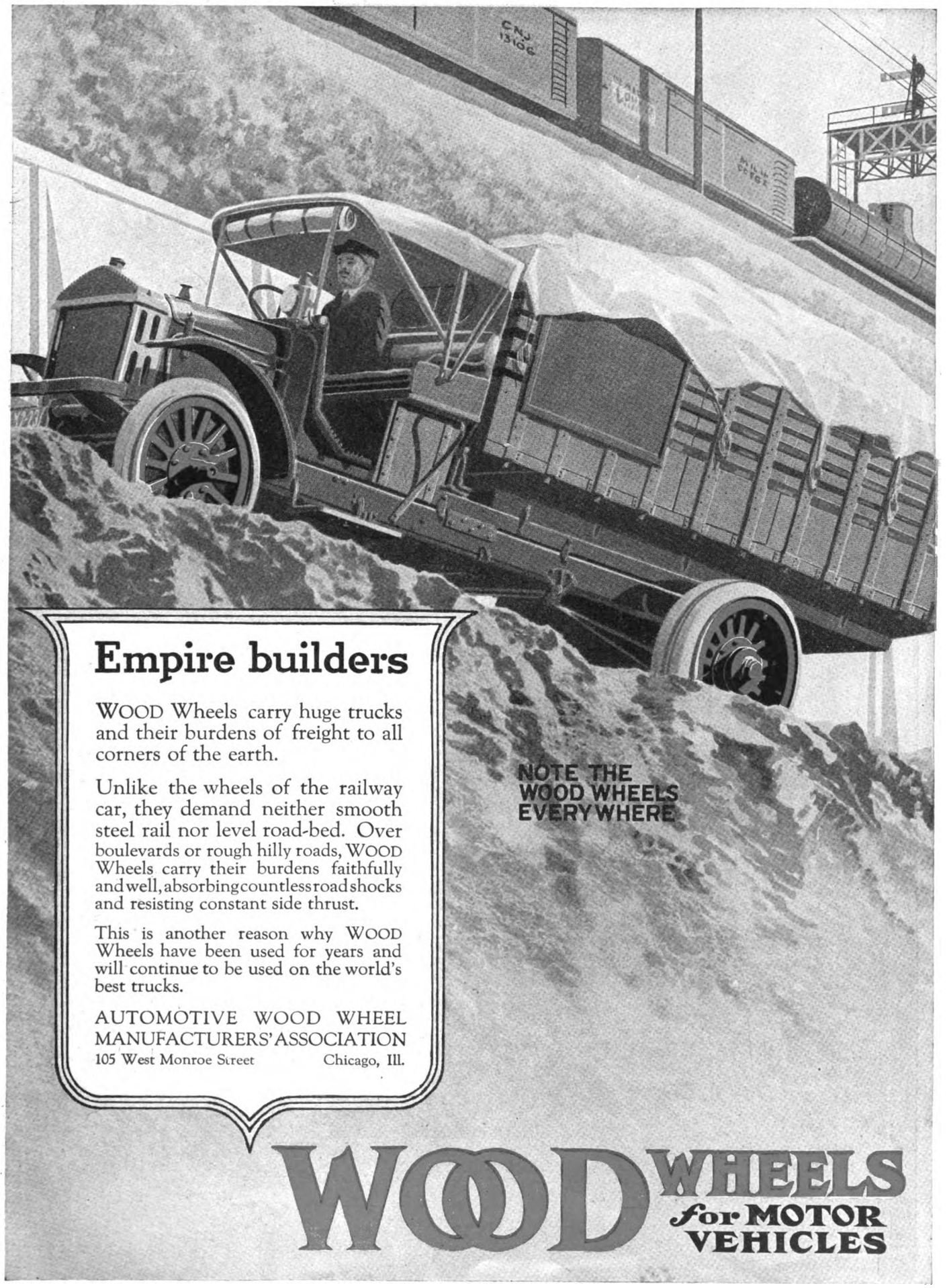

Empire builders

WOOD Wheels carry huge trucks and their burdens of freight to all corners of the earth.

Unlike the wheels of the railway car, they demand neither smooth steel rail nor level road-bed. Over boulevards or rough hilly roads, WOOD Wheels carry their burdens faithfully and well, absorbing countless road shocks and resisting constant side thrust.

This is another reason why WOOD Wheels have been used for years and will continue to be used on the world's best trucks.

AUTOMOTIVE WOOD WHEEL MANUFACTURERS' ASSOCIATION
105 West Monroe Street Chicago, Ill.

WOOD WHEELS for MOTOR VEHICLES

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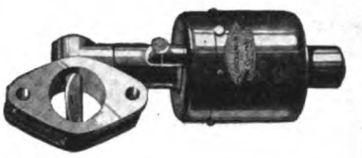
PIERCE

GOVERNORS



DEPENDABILITY is always the deciding factor, when *conscientious* truck manufacturers select the various units that go to make up the truck that bears their name.

That is why an overwhelming majority of the prominent motor truck builders have chosen Pierce Governors as standard equipment. Pierce Governcrs have demonstrated their ability to protect the truck mechanism from the disastrous results of excessive speeds, and to keep the truck on the job. They are higher priced than most governors, but their performance more than justifies the price.

Look for the Pierce Governor—it is a sign of dependability that more than one hundred truck manufacturers have placed on their truck motors.

The Pierce Governor Company
"WORLD'S LARGEST GOVERNOR BUILDERS"
Anderson, Indiana, U·S·A

Available Truck Company
Manufacturers of MOTOR TRUCKS
North And Kilpatrick Avenues
Chicago U.S.A.

June 5th 1920.

The Pierce Governor Company,
Anderson, Indiana.

Gentlemen:-

It might be of interest to you to know that before adopting the Pierce Governor as standard equipment for our trucks, we made a most thorough investigation of all makes and types of governors.

That we have not made a mistake in selecting your units is made evident by the following testimonial recently received:

* * * * * * * *

"In justice to your product, and the service which your trucks have given us, we feel justified in mentioning the fact that Available Trucks have made it possible for us to increase our business nearly two-fold

The fact that Available Trucks have an abundance of power and a performance that keeps them on the road in all kinds of weather and conditions, should be a factor of interest to any one desiring to purchase truck equipment."

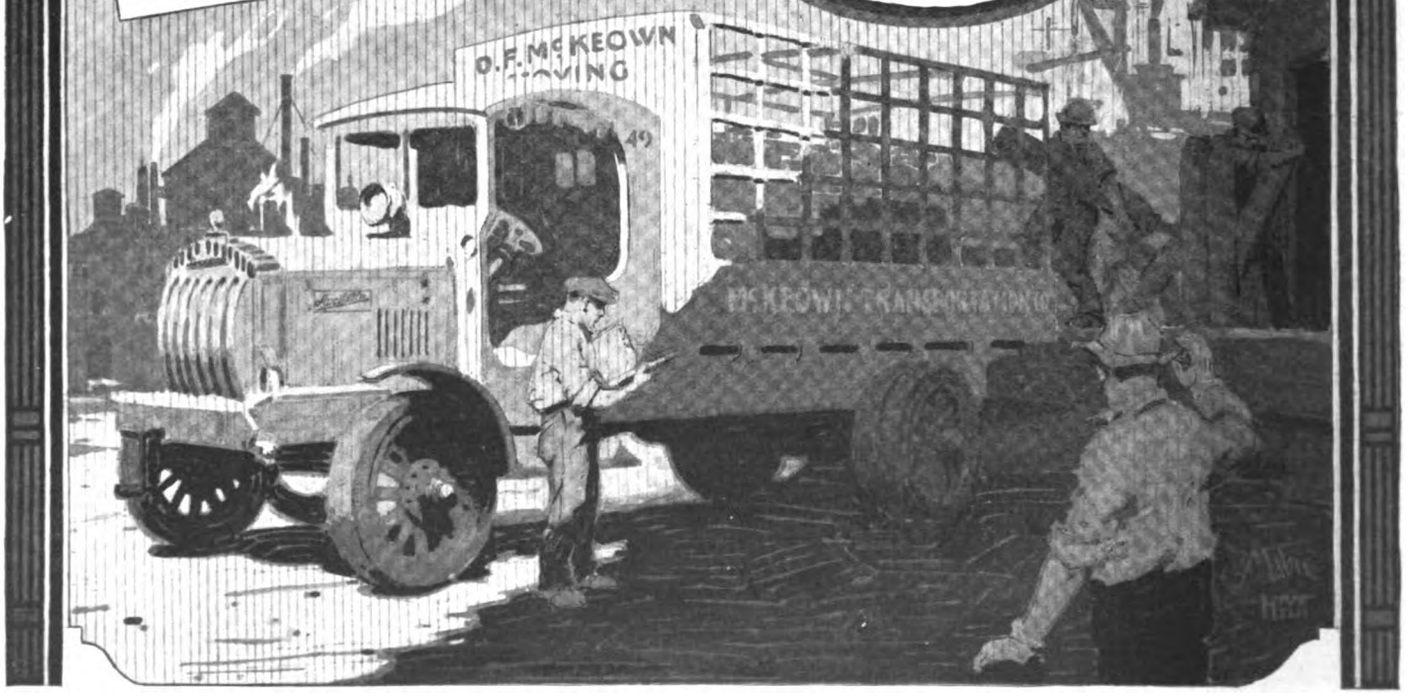
McKeown Transportation Co.,
(Signed) D.F.McKeown, President.

* * * * * * * *

The performance of Available Trucks is assisted very materially by the use of Pierce Governors, thereby promoting the abundance of power that keeps them on the road in all kinds of weather and conditions, and enables them to maintain a uniform service.

Very truly yours,
AVAILABLE TRUCK COMPANY,
Sales Manager.

AVAILABLE ALWAYS SINCE NINETEEN TEN



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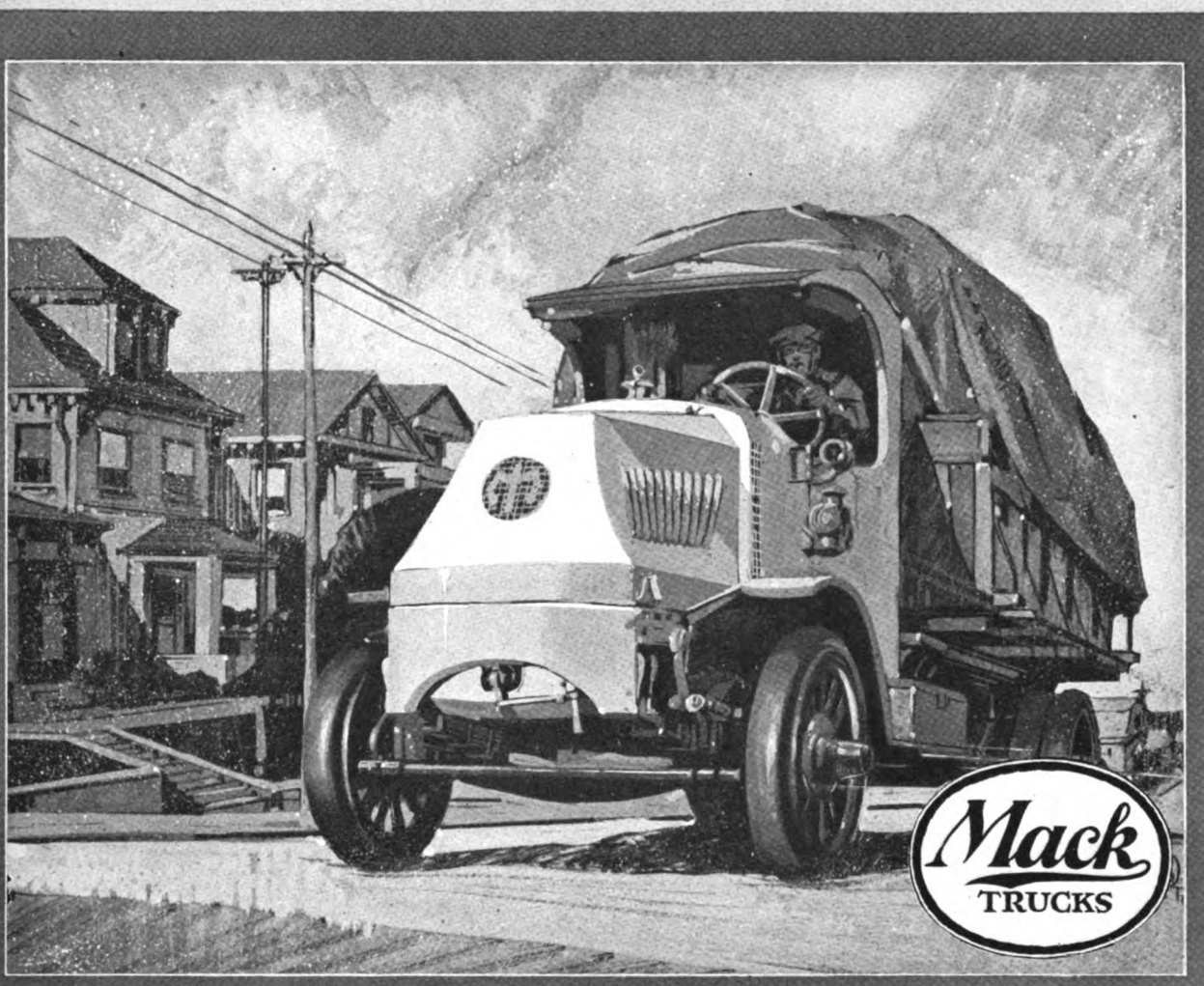

For every requirement

"My Mack trucks, loaded to the top, frequently come up the Montgomery Street Hill—a grade of about 25 per cent. I am now figuring on a contract that will require ten more 7½-ton Macks, which will bring my total fleet up to twenty."—*From one letter of hundreds we should like you to read.*

THE Mack motor has sufficient reserve power for work far in excess of normal requirements. In the 3½ to 7½ ton models, the bore is 5" and the stroke 6". While rated at 40 H. P. it has developed 74 H. P. on 100-hour continuous brake tests. It has a three-point suspension and is easily demounted.

Distinctive Mack engineering features, combined with 18 basic Mack patents, have developed the motor truck the world is talking about.

Capacities 1½ to 7½ tons. Tractors to 15 tons.

Our latest catalogues, Nos. 13 and 39, contain a detailed description of the many exclusive features that have made Mack supremacy possible, together with the complete specifications of every model. Send for them today.

INTERNATIONAL MOTOR COMPANY, NEW YORK

"PERFORMANCE COUNTS"

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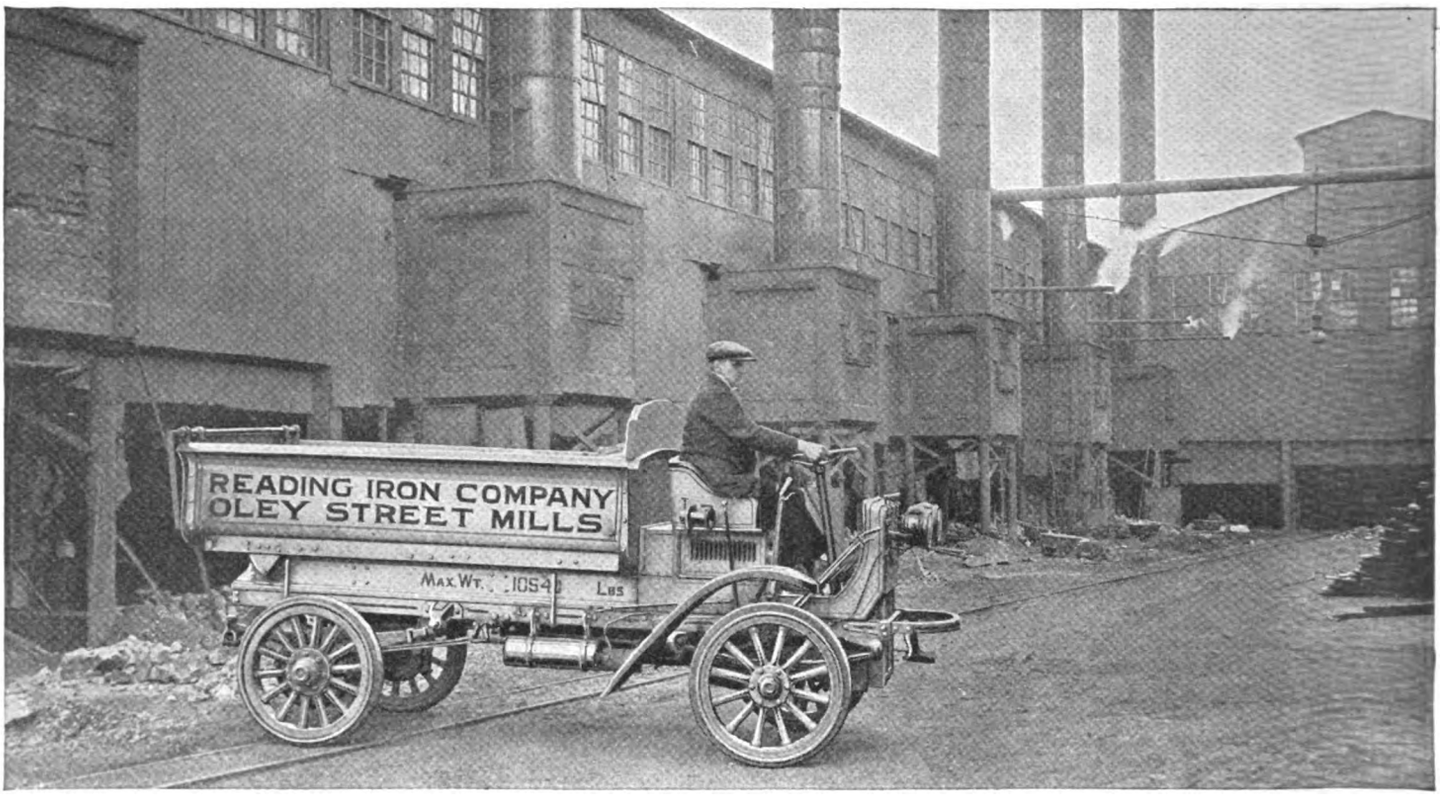
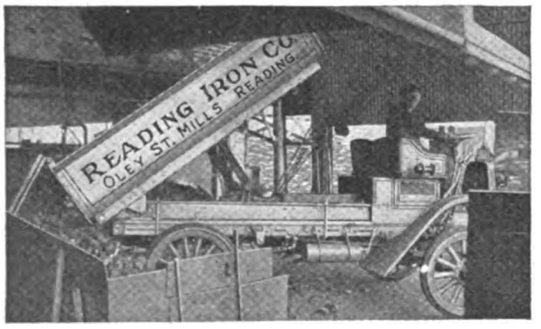


Autocars Speed Production



Chassis ($1\frac{1}{2}$-2 Ton)
$2300, 97-inch Wheelbase
$2400, 120-inch Wheelbase

The Autocar Motor Truck operates right inside big manufacturing plants. Its short wheelbase enables it to thread its way through places congested with machinery, and keep departments supplied with raw materials and material in process.

The Reading Iron Company use twenty-two Autocars. These Autocars keep the puddling furnaces constantly provided with fuel and raw material. They carry ashes to the dump. They take care of pick-up errands to and from freight yards and between plants.

They dump and take on loads within the limits of the plant. Yet no time is lost in maneuvering. Nowhere is rehandling necessary.

The short wheelbased Autocar is helping thousands of concerns in every line of business to meet the nation's need for increased industrial production.

THE AUTOCAR COMPANY, Ardmore, Pa., Established 1897
The Autocar Sales and Service Company

New York	Boston	Philadelphia	Pittsburgh	Chicago	San Francisco
Brooklyn	Providence	Camden	Baltimore	St. Louis	Sacramento
Bronx	Worcester	Allentown	Washington	Dallas	Oakland
Newark	New Haven	Wilmington	Richmond	Los Angeles	Stockton
Schenectady	Springfield	Atlantic City	Atlanta	San Diego	Fresno
Syracuse					San José

Represented by these Factory Branches, with Dealers in other cities

Autocar

Wherever there's a road

Fourteen of the Reading Iron Company's Autocars. Quickly assembled for this photograph on a 27-foot raised roadway, and immediately returned to their duties afterwards.

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POWER WAGON

Vol. XXV. CHICAGO, NOVEMBER, 1920. No. 192.

New York's Truck Show Is Fixed for January 3 to 8

FOSTERED BY OWNER AND DEALER BODY

Theodore B. Pratt, general manager of the Motor Truck Association of America, Inc., has announced that the New York motor truck show will be held in the 12th Regiment Armory under the auspices of that association from January 3 to 8, inclusive, 1921, and bids fair to be the most successful truck show ever presented in New York. Mr. Pratt has met with a most generous coöperation from all quarters and the support which has already been pledged shows that the plan presented by the Motor Truck Association has received the hearty endorsement of the trade in general.

The most difficult problem which the show committee has to contend with is that of satisfying the applicants for space with the amount that is available for, notwithstanding the fact that the 12th Regiment Armory has 30 per cent more space than Madison Square Garden, the applications to date exceed the total amount of space available. Mr. Pratt plans that this show shall be a little broader in its scope than those of the past and, while it may still serve the manufacturer to the same extent as heretofore, the dealer is to receive very definite attention. The association, because of its various affiliations, is in a position to bring together the buyer and the seller, and expects to make of the show a meeting ground where they can get together and solve their problems to their mutual advantage.

An information bureau will be established where expert advice may be obtained on the various subjects that interest the truck user, special attention being given to the following subjects: How to select a truck best fitted for his special needs; How to operate a truck at minimum cost; What system of accounting will best apply to any specific case, and the leaks in operation that are so expensive; How to prevent

(Continued on next page.)

Maxwell-Chalmers Plan

With the reorganization complete, the merged Maxwell-Chalmers properties should be able to earn between $7,000,000 and $8,000,000 net annually, taking into account normal conditions in the automobile industry, and not abnormal times which prevailed a short time ago, according to J. R. Harbeck, vice-chairman of the reorganization committee. Unusual progress is being made in disposing of vehicles on hand. During September between 3,500 and 4,000 cars were disposed of. This reflects the efforts of the new management.

It is pointed out by the committee that it is only by availing themselves of the opportunity which the plan affords to participate in the underwriting of the new stock that stockholders of the two companies can continue in control of the equities in the new organization. Under the plan these equities will be represented by Class A shares, of which approximately 80 per cent. of the amount required for the immediate purpose of the plan will go to the underwriters who provide the new money.

The plan, in the opinion of the committee, affords the only effectual method of providing additional funds required, while recognizing the stockholders' equities in the properties. It is in consideration of this fact that representative stockholders have already agreed to the purchase of a substantial amount of the new stock.

Service Managers Will Meet

The Service Managers' Convention, to be held under the auspices of the National Automobile Chamber of Commerce, will meet at the Hotel Cleveland on November 9 and 10 in Cleveland. The two days meetings will be open to those service managers whose factories are members of the chamber.

There will be talks on a uniform code of drivers' signals, instruction and parts books, passenger car service, special tools for distributers, the ideal factory service department (its organization and personnel, and systems in handling parts orders), service ideals, the time spent by trucks in service stations etc. Other questions to be discussed in open forum include: Should factories undertake to advise dealers as to service station by lay-outs?; Factory responsibility in connection with claims on equipment not covered by warranty.; Should amount of parts carried by distributers or dealers be fixed by factory?; What is the best way to systemize handling of back orders?; How far should the factory go in helping dealers train their personnel?; Should factories furnish parts in territories where parts makers have service stations?; How can service departments aid recovery of stolen cars?; In what directions might greater coöperation with parts manufacturers be effected?.

No General Reductions in Truck Prices Now Evident

MAKERS GUARANTEE AGAINST CUTS

Numerous reductions in truck prices have followed the announcement last month of sharp declines in the prices of Ford trucks and cars and other makes of passenger cars, the decreases ranging from 15 to nearly 30 per cent. Increases are evident in some quarters, notably Pierce-Arrow, Ward Le France, White and Autocar (in the case of the Autocar expressed by the addition of excise tax and freight charges), and many manufacturers have declared their intention to maintain present prices, usually guaranteeing dealers and buyers against declines within varying periods. Those motor trucks on which reduced prices had been announced at the time of going to press include Chicago, Day-Elder, Diamond T, Federal, Ford, Gramm-Bernstein, Indiana, Paige, Patriot, Sandow, Selden, Standard, Stewart and Triangle. The increases are illustrated in detail in the following paragraphs.

Chicago.—Model C 1½ (1½-ton) was $2,750, now $2,450; model C 2½ (2½-ton) was $3,250, now $2,800; model C 3½ (3½-ton) was $4,450, now $3,800; model C 5 (5-ton), now $4,600.

Day-Elder.—Model A (1-ton) remains at $2,100; model B (1½-ton) was $2,450, now $2,300; model D (2-ton) was $2,950, now $2,750; model C (2½-ton) was $3,150, now $2,950; model F (3½-ton) was $3,950, now $3,750; model E (5-ton) was $4,950, now $4,600.

Diamond T.—Model T (1½-ton) was $2,800, now $2,450; model FS (1½-ton special) was $3,100, now $2,715; model U (2-ton) was $3,485, now $2,835; model K (3½-ton) was $4,825, now $3,925; model EL (5-ton) was $5,675, now $4,615; model S (5-ton special) was $5,900, now $4,800.

Federal.—Model SD (1-ton) was $2,600, now $2,500; model TE (1½-ton) was $2,825, now $2,725; model UE (2-ton) was $3,150, now $3,025; model WE (3½-ton) was $4,100, now $3,950; model XE (5-ton) was $4,750, now $4,600.

Ford.—Model T (1-ton) was $640, now $545.

Gramm-Bernstein.—Model 15 (1½-ton, internal gear) was $2,250, now $2,050; model 65 (1½-ton worm-gear) was $2,775, now $2,725; model 20 (2-ton) was $3,275, now $3,175; model 25 (2½-ton) was $3,875,

(Continued on next page.)

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New $2,500,000 Company to Build Walker Truck Axles

BACKED BY LOCAL ELECTRIC INTERESTS

The Walker Axle Company has been formed in Chicago, with $2,500,000 capitalization, to manufacture the Walker balanced-drive internal-gear axle for motor trucks. The officers of the company show the financial influence of the Commonwealth Edison interests. William A. Fox, president of the new company, and John F. Gilchrist, its treasurer, are vice-presidents of the Commonwealth Edison Company; G. A. Freeman, vice-president and general manager, holds the same positions with the Walker Vehicle Company, another Commonwealth property; and George R. Walker, chief engineer, is the designer of the axle and of the Walker electric truck Walker axles have been made by the Edward Valve & Manufacturing Company at its plant at East Chicago, Indiana, but a new factory to be devoted exclusively to axle making will be erected at 87th and State Streets, adjacent to the new factory of the Walker Vehicle Company and the Federal Electric Company, the latter also a Commonwealth Edison property.

Reductions in Truck Prices

(*Continued from preceding page.*)

now $3,575; model 30 (3-ton) was $4,975, now $4,575; model 35 (3½-ton) was $4,775, now $4,375; model 50 (5-ton) was $5,875, now $5,275.

Indiana.—Model 12 (1¼-ton) was $2,425, now $2,290; model 20 (2-ton) was $3,140, now $2,950; model 25 (2½-ton) was $3,350, now $3,150; model 35 (3½-ton) was $4,150, now $3,750; model 50 (5-ton) was $5,075, now $4,775.

Paige.—Model 52-19 (1½-ton) was $2,980, now $2,880; model 54-20 (2½-ton) was $3,535, now $3,400; model 51-18 (3½-ton) was $4,385, now 4,285.

Patriot.—Model Revere (¾-ton) was $1,990, now $1,785; model Lincoln (1½-ton) was $2,785, now $2,450; model Washington (2½-ton) was $3,845, now $3,450.

Sandow.—Model G (1-ton) was $2,295, now $2,195; model CG (1½-ton) was $2,590, now $2,490; model I (2-ton) was $2,775, now $2,575; model J (2½-ton) was $3,375, now $3,175; model M (3½-ton) was $4,395, now $4,095; model L (5-ton) was $5,175, now $4,775.

Selden.—Model 1½ A (1½-ton) was $2,460, now $2,360; model 2½ A (2½-ton) was $3,550, now $3,425; model 3½ A (3½-ton) was $4,325, now $4,175; model 5 A (5-ton) was $5,770, now $5,600.

Standard.—Model 56 (1-ton) was $2,475, now $2,250; model 76 (2½-ton) was $3,520, now $3,100; model 66 (3½-ton) was $4,410, now $4,000; model 86 (5-ton) was $5,250, now $4,800.

Stewart.—Model 11 (¾-ton) was $1,350, now $1,295; model 12 (1-ton) was $1,655, now $1,650; model 9 (1½-ton) was $2,250, now $1,995; model 7 (2-ton) was $2,875, now $2,495; model 10 (3½-ton) was $3,995, now $3,395.

Triangle.—Model AA (¾-ton) remains at $1,600; model A (1½-ton) was $2,450, now $2,350; model C (2-ton) was $2,850, now $2,700; model B (2½-ton) was $3,150, now $2,950.

The price of the 5-ton Pierce-Arrow has been increased from $5,500 to $5,700. The Autocar price, as already briefly explained, has not been increased, but the tax and freight charges are now paid by the customer by being added to the list price, which remains the same for both models.

Prices of Jumbo trucks have been reduced, but the reductions have been accompanied by the elimination of special equipment heretofore listed as standard and included in the price. This is now charged for as extra. Model 15 (1½-ton), which was priced at $2,850, is now $2,425; model 20 (2-ton) was $3,100, now $2,675; model 25 (2½-ton) was $3,450, now $3,090; model 30 (3-ton) was $3,950, now $3,590; model 35 (3½-ton) was $4,550, now $4,080; model 40 (4-ton) was $5,200, now $4,730. The old prices are now listed as the prices of the respective chassis "with extras".

Guarantees that prices will not be reduced within various periods have been announced by the makers of the following trucks, the expiration of the guarantee period being shown in parentheses: Armleder (January 1, 1921), Atterbury (January 1, 1921), Clydesdale (April 1, 1921), Denby (January 1, 1921), International (May 1, 1921), Mack (April 1, 1921), Packard (July 1, 1921), Service (January 1, 1921), Traffic (April 1, 1921), U. S (spring of 1921), and Winther (April 1, 1921).

Other trucks, whose prices can not now be reduced according to statements of their manufacturers, include Acme, Bethlehem, Dodge, Nash, Reo and Titan.

In spite of the number of makers who have adopted some form of price reduction, the great majority of the manufacturers, both as regards number of concerns and their volume of output, show no inclination to change their prices downward. In fact the movement toward lower prices has come to a resting point, no important reduction announcements having been issued during the last two weeks. The attitude of leading manufacturers toward reductions at this time is reflected in the expressions of opinion published elsewhere in this issue.

New York's Truck Show

(*Continued from preceding page.*)

accidents; Insurance costs and protection; and Laws and ordinances affecting the operation of trucks and trailers on the public highways.

Highway transportation and the long-distance haul which has gained so much prominence of late through the ship-by-truck-movement, will be taken up thoroughly. Lectures will be held on this and other subjects and articles by eminent authorities on each will be published and distributed at the show. In this connection special attention will be given to coöperation between the motor truck and the railroads.

The congested condition of New York City's transportation will be in the hands of a special committee, which will receive suggestions from any one interested as to its practical solution. The last subject alone is of interest to every business man in New York and the Motor Truck Association will have the coöperation of the Merchants' Association, the Chamber of Commerce, the railroads, etc.

A committee of special interest will be one composed entirely of truck operators, who will receive complaints from anyone operating a truck in which he may set forth that which seems to him a defect in the particular make of truck he uses. These complaints will be turned over to the maker of the truck referred to in each case and it is expected that much information of value may be accumulated in this way.

That the Motor Truck Association should have arranged such a comprehensive program will cause no surprise to those who have been acquainted with its activities in the past, for it has always done well that which it has undertaken. The association has among is members those who own and operate more than 35,000 trucks in New York City and, because of this and its close affiliation with other civic bodies it is assured of the attendance of those vitally interested in motor trucks. It thus offers to the dealer and manufacturers, through this show, the opportunity to meet face to face the real buyers of their product and a chance to present the merits of their wares to the real purchasing power in the greatest urban market in the world.

Truck and Car Makers Urge New Foreign Trade Policy

RECIPROCITY INSTEAD OF PROTECTION

A new policy in foreign trade was launched by motor vehicle makers in conference at New York recently. Lower tariff schedules on American machines and new commercial treaty agreements were advocated and a decision was made to present resolutions on these points to Congress. The action was taken at the Export Managers' Convention of the National Automobile Chamber of Commerce.

This departure from the protectionist attitude results from the fact that the manufacturers believe the American industry should reciprocate with similar industries in other countries and advocate lower tariffs on imported vehicles. Our exports have been constantly on the increase since the armistice, but it is believed that the measures advocated will serve still further to promote foreign trade and thereby maintain stable business conditions. It is realized that the export business can not be expanded unless imports are likewise promoted. Automotive products exported were valued at more than $224,000,000 last fiscal year, including 129,875 cars and trucks shipped to eighty-one countries. How the Jones Shipping Bill can aid American exporters, the facilities of the "Edge" banks for financing exports, and general conditions abroad, were additional topics.

(*Continued on next page.*)

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New Motor Truck Standards Adopted by the N. A. C. C.

SPEEDS, BODY WEIGHTS & CAUTION PLATE

The motor truck members of the National Automobile Chamber of Commerce, in a general session held at New York, on October 7, adopted new standards for body weight allowances, gross weight, chassis, body and freight load, and the standards committee's recommendations on speeds.

Under the new standards, demonstration charges for commercial motor vehicles embodied in standards adopted in 1912 are eliminated.

The recommendations of the standards committee follow:

Standard Speed Rating.—The committee recommends that the 1912 standards be eliminated and that the following table be adopted. These speed ratings should be recognized by the manufacturer as the maximum and not exceeded under any conditions. The manufacturer should stamp on the truck caution plate the actual maximum speed with load for which the truck is built and beyond which the truck is not guaranteed.

Gross Weight (Chassis, Body and Freight Load).	Speed in Miles per Hour.
Pneumatic tires, up to 28,000 pounds.....	25
Solid rubber tires, up to—	
4,000 pounds.....	25
8,000 pounds.....	20
12,000 pounds.....	18
16,000 pounds.....	16
20,000 pounds.....	15
24,000 pounds.....	15
26,000 pounds.....	15
28,000 pounds.....	15

Standard Body Weight Allowances.—The committee recommends that the 1912 standards be eliminated and that the following table be adopted:

Load in Tons.	Body Weight Allowance in Pounds.
1 to 1½	1,200
2 to 2½	1,500
3 to 4	2,000
5 and over	2,500

These weights apply to both electric and internal-combustion motor trucks.

Standard Caution Plate.—The committee recommends that the present form of plate should be retained, and that the six footnotes should be retained with the exception of the note headed, "Speed Rating," which should be revised to read as above.

As stated above truck manufacturers should be responsible for six of the weights which are called for on this plate, as follows:

Freight load capacity	Standard
Body weight allowance	Standard
Weight of chassis	Standard actual
Total weight, chassis body and load	Standard actual

The truck manufacturer, his distributer, dealer, or agent should be made responsible to see that the body is weighed and that the plate is stamped:

Freight load capacity	Actual
Body weight allowance	Actual

W. J. McIntyre has resigned as sales engineer with the Splitdorf Electrical Compeny, Newark, New Jersey.

New Foreign Trade Policy

(*Continued from preceding page.*)

"The question of tariffs and treaties is one that should be negotiated on the basis of industry as a whole," said one of the speakers. "For instance: The exchange of favors need not necessarily be between the automobile industry of one country with the automobile industry of another, but nations who do not make cars could give a favorable tariff to American automobiles in return for consideration by us of some of the products which they export."

Longer terms of credit can be extended to foreign customers by banks organized under the Edge law. These credits must be based on thorough investigation, and where the buyer is good the possibilities of greater market for American products are increased. Immediate results from longer credit abroad, however, are not likely to be seen until world conditions are more stable.

In the near future, however, the Edge bank system will permit a degree of foreign financing which could not be undertaken by individual manufacturers. If the foreign banks will guarantee the paper of their customers, the Edge bank can in turn determine whether the guarantee is sound and avoid seeking recourse from the manufacturer.

Four speakers spoke optimistically on the recovery of foreign trade conditions. Great Britain is nearly back to normal on her exports and is reducing her debts 3½ times more rapidly than the United States. The morale of France is remarkable. Her railroads are in splendid condition and this year's crops are exceptionally large. Belgium is rapidly getting back to her pre-war strength. The Central Powers, on the other hand, are still in a state of uncertainty.

Taxation Plan Withdrawn

At the tax meeting before the National Industrial Conference Board in New York on October 22, the National Automobile Chamber of Commerce made a presentation regarding the proposal of the tax committee of that conference to tax automobiles and trucks annually at 50 cents per horse-power to raise $100,000,000 and gasolene 1 cent per gallon to raise $45,000,000 all in addition to present taxes on the automobile industry. These proposals came as a part of the recommendations of the tax committee as a method of replacing loss of revenue which would be sustained by the elimnation of the excess profits tax and the reduction of certain sur-taxes on individual incomes. It was announced by the committee that the proposal would be eliminated from its final report to the conference board.

C. E. Eldridge, manager of the Chicago branch of the Reo Motor Car Company, announces the appointment of N. O. Gilbert as retail sales manager, to succeed J. J. Lake, recently resigned. Mr. Gilbert has been associated with the Reo company for some time and lately has been in charge of the retail sale of speed-wagons. He made an enviable record in the truck department and his new connection is to be regarded in the nature of a promotion.

Highways Are Big Topic at Akron Transport Conference

FEDERAL ROAD COUNCIL DIRECTS WORK

At a transportation conference held in Akron in response to a call by the Federal Highway Council, committees were appointed to lay out and direct a movement to coördinate all existing transportation agencies to the end that the public may have that form of common carrier service which is most efficient, economical and practical. Highway officials from practically every section of the country were in attendance. The motor industry was well represented, and for the first time in history steam and electric railways, waterways and express companies took part in a good roads meeting, for such it was primarily.

One of the serious phases of road development, that of subgrade and its relation to the road surface, came before the conference, under the leadership of C. M. Upham, state highway engineer of Delaware, and vice-chairman under Coleman Dupont, chairman of the sub-grade committee of the Federal Highway Council. The work of this committee, it was pointed out, is in response to a demand that engineers find some way to overcome road failures which confront taxpayers at the present time, due to the attention which has been given to the surface construction at the expense of the foundation on which the surface rests. The committee will seek to determine definitely how subsoils shall be treated in order to prevent damage to the costly road surface. In the hope of accomplishing this purpose, field tests will be made to determine the bearing power of various kinds of soil, studies will be conducted in drainage, and a study also will be made to ascertain by what chemical method the bearing value of the soil may be increased.

The relation of the highways to railroads, waterways and other forms of transportation to the end that such carrier agencies may be properly coördinated in public service is in charge of a committee headed by W. J. L. Banham, of New York, member of the executive committee of the National Industrial Traffic League.

While supporting the movement to make a larger use of the public highway as a freight and express carrier, Charles Hine, of New York, an expert on motor terminals, challenged any member of the conference to show any such record in empire building as the American railroads had achieved in the past ninety years.

Throughout the entire session lasting two days, due credit and appreciation was given the railroads for the work performed; at the same time expressing a determination to make a larger and more extended use of the motor vehicle through the construction of more lasting types of road.

F. S. Holbrook, vice-president of the American Railway Express, pledged the coöperation of the interests which he represented, in the movement, to add the public highway to the nation's transportation system.

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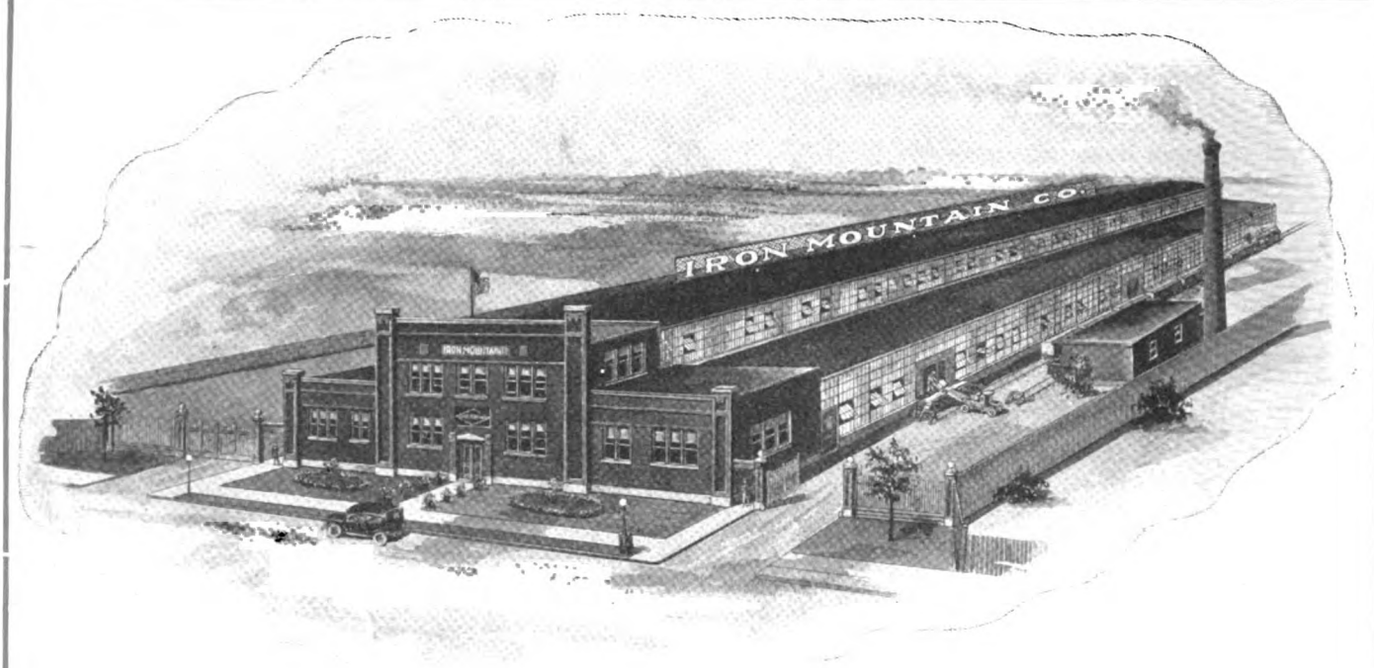

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POWER WAGON

An exponent of the most enlightened thought and practice of the motor truck industry.

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Hindering Farmer Buying

THROUGH the adoption of a policy which openly discourages the individual purchase of motor trucks by farmers the Bureau of Markets of the Department of Agriculture has assumed a grave responsibility. Its issuance and country-wide dissemination of the statement that "in very few instances is it advisable for a farmer to purchase a motor truck solely for his own needs, as the initial investment, cost of upkeep, and the limited time the truck is likely to be in use make the venture expensive" implies that the bureau is in a position to justify such a broad assertion with a great volume of unimpeachable evidence. If such testimony is available, the bureau will surely have no objection to laying it before the motor truck industry, which is no more anxious to be deluded in its estimates of market possibilities than is the farmer to be deceived in his expectations of motor wagon economy.

We hope that the statement alluded to reflects merely the opinion of some of the bureau's coöperation enthusiasts, because the contention made is not supported by independent evidence nor by the evidence adduced by the Office of Farm Management, another of the government's farm divisions. This office has conducted valuable investigations in the field of agricultural transport and its findings, as published in this journal, leave no doubt whatever of the great usefulness of motor trucks in farming operations. By no stretch of the imagination can they be offered as tending to confirm the allegations of the market bureau.

It is not advisable for government agencies, however well meaning, to stress unnecessarily the matter of coöperative truck ownership, which involves many problems of organization and management that have nothing whatever to do with transportation economy. Much more rapid advances in the direction of cheaper hauling will be made by countenancing a general policy of individual experimentation with motor transport than by insisting upon the immediate adoption of methods that are thought to represent the ultimate expression of efficient management.

Competition for Railroads

THE continuing failure of the railroads to make appreciable improvements in the service they render is rapidly shaking the faith of the public in their ability to do so, and the time will soon come when the railroads will no longer be worshipped as the "builders of empires" and the sole support of business. It is becoming increasingly apparent that the roads need something more than money, even when this is supplied in great and unprecedented quantities, and that a new policy is quite as important as new rails and cars.

Everywhere the cry against railroad inefficiency grows louder. The charge is inability and immobility. The Illinois Agricultural Association is among the last to add its testimony to the swelling voice of protest. This body has found that of 9,294 cars listed at various points outside Chicago, 938, or approximately 10 per cent., did not turn a wheel in a week. Of nine stations checked in Grundy County five showed that, out of a total of 454 cars listed, 236, or more than half, had not been moved in a week; the other four showed complete clearance. It appears to be a question of maladministration or weakness at the top, since what can be done in one quarter should not be impossible in another.

Mobility is the great merit of motor transport, which can be made as flexible or as rigid as circumstances may demand. It is the chief point of justification for the motor wagon's claim to l. c. l. freight on short hauls. It explains the motor truck's ability to deliver in a day what requires a week when done by railroad methods. It accounts for the genuineness of motor truck competition and the increasing diversion of business from the railroads.

The railroads complain that motor transportation is subsidized by public funds spent in the building of roads, which are constructed and maintained without cost to motor vehicle owners, and that no one proposes to do anything like it for them, "nor even to exempt them from taxation in proportion to the expenditure of public revenues in building up their rivals." There is the further advantage for the truck operator, we are told, in being at present practically free of state or federal regulation of his rates and service. Such specious pleading fails to convince anyone, as long as motor vehicle owners and makers contribute hundreds of millions of dollars annually to road-building and maintenance, whose benefits are shared by railroads and public alike. Nor are the railroads likely to arouse much sympathy on the score of public regulation, whereby they are enabled to increase their rates beyond the necessities of the situation simply because they cling to costly short-haul l. c. l. traffic, which levies the toll of its waste on their long-haul car-load business that is the only proper function of railroading.

When the railroads make up their minds to get down to the business for which they are suited and to discontinue the sorry spectacle of poor pleading and poor performance, we may expect to see some evidence of their alleged efficiency. Meanwhile the motor truck will make increasing inroads on their undesirable traffic—a service for which they should and will be properly grateful.

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750-Mile Demonstration Tour Sells Fifty Trucks to Farmers

The possibilities of motor trucks on the farm were demonstrated recently to 25,000 Colorado farmers when 20 trucks of various makes invaded eleven agricultural states on a two-week demonstration tour of 750 miles. The trucks of the caravan averaged 750 miles—a distance equal to the entire tour—while doing demonstration work on the farms. Half a million ton-miles of hauling was done free for the farmers.

The Rocky Mountain Trades Association, under whose auspices the tour was made, challenged farmers along the route to produce a hauling job the trucks couldn't handle. The farmers accepted the challenge, but couldn't "stump" the trucks, although the big machines performed amazing hauling feats. For example, a 2-ton truck, carrying a 2,100 overload of coal, pulled up an 11 per cent. grade through blow sand, which no other vehicle had ever conquered. This performance won a bet of $100 made by a farmer in the belief that the truck would fail.

Picking their way across plowed fields with positive traction, the powerful trucks carried big loads of grain from combines and threshers deirect to elevators miles distant, performing in from 1 to 3 hours hauling jobs that would have taken teams a full day to accomplish. Live stock, lumber, coal, barley, rye, oats, wheat, potatoes, cement, shingles, plaster, keresene and even church pews were transported between farms and railroad shipping points. In many cases loads handled by these trucks in a few hours over distances as great as 30 miles would have kept all the farmer's horse equipment busy for days.

Bad weather turned dirt roads into seas of slippery mud, but despite this handicap, the caravan maintained its schedule from county to county without losing a single truck. In addition it pulled out many touring cars that had mired or slid off the road. While a rule of the tour prevented the sale of trucks during a purely educational enterprise, more than 50 trucks were sold in the wake of the trip.

Ford Move Thought Sensible

The sudden and sensational reduction in prices by the Ford Motor Company is not the hasty or ill-advised step that might have appeared at first glance, in the opinion of certain bankers. Most corporate executives are now ready to admit that Ford showed good common sense and quick judgment.

In the first place, it was necessary for him to take an inventory loss some time soon. It was a question of this year or next. By taking it now and through the process of manufacturing the loss is minimized. Not only that but the saving in taxes this year will be immense, for next year in all probability the Federal tax schedule will be both revised and lowered.

Again, the reduction in prices is an effective cudgel against raw material producers for lowered prices. These are already falling in line, for the Ford business is too valuable a backlog to be sacrificed for temporary considerations.

But the most interesting phase of the Ford cut is perhaps the indirect revenue it produces through the stimulation of the parts business. By stimulating sales the Ford field is tremendously widened and the parts business, long a big and permanent profit producer, is again expanded. Several years ago Ford was making $15,000,000 per annum from this end and now, with over 4,000,000 Fords in use, this sum must have been vastly increased. In fact, the parts business ought before many months to make up much of the pending losses.

Banker Sees Spring Revival

Small motor plants in the Chicago district are running on an average of 50 to 60 per cent. of capacity. Price reductions have materially stimulated the demand for Ford cars but no others.

Ralph Van Vechten, vice-president of the Continental & Commercial National Bank, says: "The automobile industry must wait until the general liquidation reaches the point where the credit situation is relieved, which probably will take most of the winter. I wouldn't be surprised to see some improvement in the early spring and, once it starts, there should be a rapid recovery, culminating in a considerable rush all around and better prosperity than the automotive industry ever had. Larger manufacturers realize banking necessities and are coöperating."

Chamberlain to Lecture Trade

The National Automobile Dealers' Association has arranged for a "sales and service" tour by P. E. Chamberlain, for many years general manager of the R. R. Hall Cadillac Company, Denver, Cadillac distributers. Mr. Chamberlain will make a series of talks under the auspices of the N. A. D. A. on "Selling Service Intelligently" and on the relation of service to sales, before trade bodies and special distributer gatherings and also will address civic bodies on the relation of the motor vehicle industry to community progress. Mr. Chamberlain has gained national prominence in the last three years through his development of sales and service. His published articles in leading trade journals and his addresses before trade organizations and civic clubs have done much toward clarifying the relation of the motor vehicle and automotive dealer to the public. He was one of the first directors of the National Automobile Dealers' Association and instrumental in its organization during the war period.

New Roads for Missouri

The Missouri State Highway Department, on July 14, approved the project for the construction of a bridge across the White River at Forsythe, Taney County, to cost $72,000. Applications for State and Federal aid on 29.13 miles of road were also approved, the estimated cost of the highways to be $195,982. This brings up the total mileage approved under the new law to 1,793 miles, the construction of which, it is estimated, will cost $18,543,865. Of this amount, the Federal Government will pay $8,681,957 and the state $1,416,760.

Truck Show Brings Out Long Life of Many Electric Wagons

Statistics presented in chart form at the electric vehicle division of the New York electrical exposition of 1920 indicate that electric motor trucks enjoy long lives, at least in New York City. For example, there are five of these vehicles owned by the Tiffany & Gorham Companies, which have been in regular service for over 22 years. In the metropolitan district there are 74 electric trucks 15 years old and still going. Ten-year service records are held by 395 trucks, while 2,448 are 5 years old and 2,889 are now 4 years old.

As there are now a total of 4,475 electric motor trucks in the Metropolitan District the figures from which the above are taken mean that over half of them have been in service for 5 years and approximately 65 per cent. of the total have been in service from 5 to 22 years. The 4,475 trucks represent an investment of $22,500,000. Of this total 475 represent sales in the first nine months of the current year of new trucks valued at $2,375,000. The electric trucks in the metropolitan district are owned by 506 firms representing 102 different lines of business.

Another interesting fact shown in the statistics above mentioned is that in the last 17 years the cost of electric current for charging batteries of electric trucks in the metropolitan district has decreased 60 per cent.

National Motor Truck Committee

The National Motor Truck Committee of the National Automobile Chamber of Commerce has recommended that all truck manufacturers carry a slug in their advertising to the effect that crankcase lubrication be renewed every 1,000 miles, that the crankcase be drained, the engine rinsed with kerosene and refilled with new oil.

The committee has recommended that a campaign be carried on to dealers and users calling attention to the dangerous practice of overloading motor trucks. Many states are taking action against the overloading of trucks, contending it is damaging the highways.

$4,000,000 for Tennessee Roads

Money for road work in Tennessee is drawn from several sources. There is a tax of one mill throughout the state, the automobile fund, and county bond issues. The records of the State Highway Department shows $798,516.90 left over from 1919 which is available for 1920. The automobile fund for this year amounts to $244,580.38, and county bond issues total $10,000,000. There is available this year about $4,000,000.

Mirror Law Held Wrong

The new Kentucky law requiring motor trucks to be equipped with mirrors beside the driver's seat has been held unconstitutional by Chief Justice John D. Carroll. The law provided that all trucks should be equipped after January 1, 1920, and directed the tax commission to purchase mirrors to be sold to truck owners and to enforce the act.

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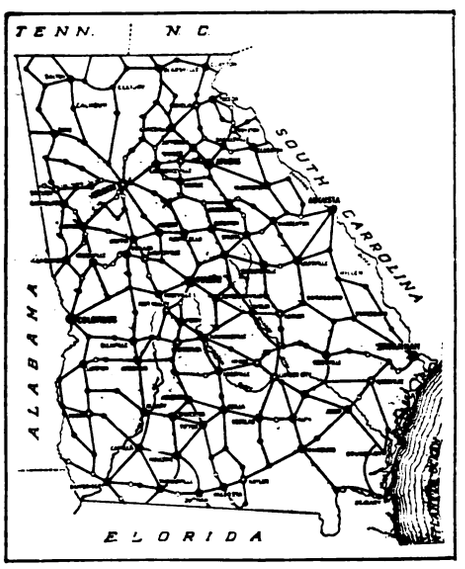
Georgia's New Highway Scheme Calls for Comprehensive System

The Georgia legislature, in the summer of 1919, passed an important highway bill. This bill had as its object the reorganization of the State Highway Department, and directed the State Highway Engineer to prepare a map of state roads, these roads to connect each county seat of the state with at least two roads, and allow an additional mileage for important connections which would connect adjoining county seats. Further, allowance was to be made for interstate connections. The mileage of the system, as shown on the map, was to be limited to 4,800 miles. This map was to be approved by the State Highway Board and filed with the secretary of state.

In order to meet the cost of this system, motor vehicle license fees were increased considerably, and the funds derived from this source are to be used exclusively for the construction and maintenance of the state system. In addition to this, any federal aid which may be received will be used for the same purpose.

The state law requires that at least 70 per cent. of the funds derived from motor



Map showing Georgia's comprehensive road plans.

vehicle license fees shall be expended in the actual paving of the state road system. The law further divides the state into twelve road districts, and provides that all funds shall be expended in each of the road districts. The division of these funds is to be based upon the miles of roads in each district, as compared with the total mileage in the state system.

New GMC Plant Running

Additions to the plant of General Motors Truck Company at Pontiac, Michigan, started partial operations early in October. By the end of the year it is expected to have the new factory fully equipped and running on a full schedule. General Motors spent about $1,000,000 for the erection of the new truck plant and put in $500,000 worth of machinery, a total investment of approximately $1,500,000. This is in addition to the original truck plant.

Motor Vehicle Service Intelligently Sold

By P. E. CHAMBERLAIN

Formerly General Manager, R. R. Hall Cadillac Company

IS this something new under the sun? Is a Service Sales Department conducted along exactly the same lines as a new car sales department possible and practical?

If anyone doubts that this question should be answered in the affirmative, let this doubter spend his vacation in Denver and see how smoothly this new idea works out in practice. Let him sit in at the morning conference and hear the report of the service salesmen. Let him see these reports turned in and entered upon a follow-up card. Let him get a proper understanding of just what is meant by "selling service intelligently," and I am very sure he will agree with me that it is high time that our service departments not only develop mechanics and offer facilities for doing good work but that they be elevated to a plane of dignity in keeping with the wonderfully interesting and dignified business in which we are engaged.

In my organization there is a service sales manager, three service salesmen, an accessory salesman, and a clerk. Positively no detail is handled here. The special business of this department is to sell. The service salesroom is finished in as pleasing a manner as any new car salesroom in the country. No matter how crowded the work departments are, no matter how many cars are being moved up and down the elevator for tests and other things in connection with the work, this service salesroom always has a quiet, pleasing air of refinement in which a woman driver feels perfectly at home in her summer clothes of white.

The first impression is carefully considered. There is parking around the outside of the building with grass and flowers and vines. A doorman sees to it that no one ever has to blow his horn in order to be admitted. Workmen are not allowed to congregate on the sidewalk, even during the noon hour, and they do not care to do so since a lunch and club room have been provided for them.

No man in overalls is ever seen in the service salesroom since the arrangements of the building are such that all business may be transacted without this becoming necessary. Instead a salesman meets the owner before his car has come to a full stop. There is always a smile for the incoming customer and a good wish for his automobile welfare when he departs. Thus is given the thing most dear, perhaps, to the mind of any customer—personal attention.

But there is the owner who, some time ago, became disgruntled and has not been in for several months. What of him?

This man is called upon by a service salesman who "works the street." Each man works inside a week and outside a week. His card is sent in just as if he were selling anything else under the sun. He has something definite to sell as his reason for asking for the interview—in our case this is our regular inspection service, paid in advance for six months or a year.

Even if this is not sold it paves the way, if the interview is handled correctly, to a discussion of our service arrangements which is sure to excite the owner's interest and make him want to try us just once more. And if he does—it is up to us to hold him and we will generally do it.

This salesman is trained to answer every objection which can be brought up from that which says, "We have our nerve to solicit repair business," to a complaint about price. He carries a sales manual with every price stated in exact figures, paint colors and samples of seat covers, upholstery and carpets.

We conduct weekly contests for the purpose of stimulating proper thoughts concerning the selling of service rather than the actual dollar-and-cents sale itself. We insist upon small details such as shoes being shined, clothes neat, cleanly shaved faces, etc.

When we were building our service building 85 by 150 feet with three floors devoted to service exclusively many said to us:

"What are you going to do with all that room in a town the size of Denver? Will you still keep your 3-story sales building?"

All that room! In less than two months, with a total of 68,000 square feet in two buildings, we were working under crowded conditions in all departments. The proof of the pudding is in the eating and people are already beginning to say, "I am going to buy a ——— car because of its wonderful service." That, primarily, is the reason for it all and when the days come again—as they surely will—that we have to get out and rustle new car orders, we think this intelligently sold service of ours will swing many orders our way.

And there is nothing free—nothing placed on the books. For these abuses which gnaw into the profits, as rats gnaw into the vitals of a ship, we have substituted something better—something productive—something which makes friends, simply, "Intelligently Sold Service."

Trucking In and Out of Pittsburgh

Motor transportation of freight to points within a radius of 75 miles of Pittsburgh is being carried on by the Rainbow Lines, Inc., organized by and a subsidiary of the Union Transportation Lines, of Louisville, Kentucky. The trucks are operated on regular schedules and freight is carried at published tariff rates. The first trips were made on October 1.

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What Is a Truck's Capacity?

By F. A. WHITTEN
Chief Engineer, General Motors Truck Company

A CASUAL visitor at a recent motor car show sauntered through the truck exhibit. He was greener than emerald when it came to motor trucks, but he was interested. So he stopped at a booth presided over by a dapper salesman and which housed an anemic-looking contraption of spindly construction, all decked out in bright paint, and inquired, "What size truck is this?"

"That," said the salesman, reaching behind him for a bale of literature, "is the 2-ton 'Mastodon' truck—the finest truck built to-day. It's rated at 2 tons capacity but—" (and here the salesman waxed confidential)—"but it will carry more than that."

A little later, not being in the market for a truck, the casual visitor succeeded in eluding the dapper salesman and getting to the next booth. There stood a big, staunch-looking motor truck. Its very appearance indicated power, strength and endurance.

"Five-tonner?" ventured the casual visitor, wishing to appear motor-wise.

"No, only two tons," responded the salesman.

The casual visitor stopped in amazement. Then he cast a furtive glance at the "Mastodon" in the next booth. He passed a shaky hand over a bewildered forehead.

"Say," he finally ejaculated, "Is there a 1-ton kiddie-car on exhibition at this show?"

And the experience of the casual visitor is the experience that every motor truck buyer encounters. There is no standardization of load capacity for motor trucks.

The load capacity of all models offered is being definitely stated by truck manufacturers, but the most superficial investigation of this subject discloses that the maker apparently does not know how to define or determine the load capacity. Trucks are rated and sold by their so-called load capacities. For example, if the prices of the 2-ton trucks now being offered for sale in this country are listed, a variation is found of 100 per cent. or more in these prices. This wide range of price is due to a number of things, such as various grades of engineering, material and workmanship, tire equipment, sales policy and maker's prestige. A more detailed examination, however, disclosed that there is 100 per cent. variation in horsepower, weight, frame and axle strength, tire size and other mechanical features.

Because of this, there is urgent need of standardization of truck ratings for the protection of the manufacturer and purchaser. A buyer, in most cases, does not have the opportunity to examine and compare all the trucks offered. He is likely to assume that those rated as 2-ton trucks are 2-ton trucks, and consequently is guided to a large extent by the price. The poorest truck may have the best catalog or salesman, but a purchase made under these circumstances is not likely to be a bargain.

Such a condition is unfair both to purchaser and manufacturer. Some method of capacity standardization is necessary, and this leads to the question: What is the load capacity of a motor truck? The load capacity of a motor truck is its load capacity. What could be more simple, or more perplexing? The definition may also be put in this way: The load capacity of a motor truck is the load which it can handle to the best advantage under its particular operating conditions

Load capacity is at least partly determined by conditions over which the truck maker has no control. The pull per ton of gross weight required to move a vehicle on the level along a road will vary from 30 to 300 pounds, as the surface varies from good to bad. Consequently, road conditions have a tremendous effect on truck capacity. Consider for a moment the capability of any first-class representative American 2-ton truck. It will have an engine of about 30 horse-power. To propel it fully loaded along a good hard level road at its maximum rated speed will require only about 8 horse-power. When operating over such a road, its frame, axles, springs, etc., will be amply strong for at least 100 per cent. overload. Such a 2-ton truck, if fitted with larger tires, probably could be used indefinitely as a 5-ton truck and without any undue maintenance costs, if confined to ideal road conditions. But when this truck arrives at the end of its good hard level road and plunges off into—"into" is used advisedly —typical unimproved country road, its true load capacity will probably be found to have changed, and instantly, from 5 tons down to 1 ton, not only on account of limited motor-power, but because of the severe stresses set up by the twisting and pounding resulting from the new road conditions.

THE farmer uses his team to haul loads of produce from the fields to the highway, and all they can pull on the soft earth is perhaps a half ton. If he lives beside a well-paved highway he will combine several such half-ton loads into one and take it with the same team and wagon and with less effort over the good road to market. Now, what is the load capacity of his wagon and team?

On this account, there has yet to be evolved a method of defining capacity or standardizing ratings that considers the truck alone. Yet both purchaser and manufacturer of motor trucks need something to clear away misunderstandings and make possible the economical manufacture, sale and use of trucks.

Much of the present confusion, it appears to me, is the result of guarantees of overload capacity by the manufacturer, happily less frequent now than in days gone by, when it was a common practice for the manufacturer to guarantee his truck for an overload of 50 per cent. The purchaser under these circumstances was perfectly justified in assuming that the truck had been designed to carry 50 per cent. overload, else the maker could not safely make such a guarantee. Is not the user then justified in loading his 2-ton truck with 3 tons the first day he uses it and on every other day as well? The usual emergency soon arises—it is late and this shipment must get to the freight house before 5 P. M. even if it does weigh 4 tons—and the 2-ton truck carries 4 tons —"just for this one time." But no damage seems to have been done and soon the regular load every day is 4 tons.

ONE day a truck owner in the somewhat exclusive atmosphere of the Pullman smoking room was heard to boast of how many tons he moved every day with a certain number of a certain make of truck. A little calculation on the back of an envelope developed that the trucks must have been overloaded 100 per cent. or more. A suggestion to this effect was met with a somewhat defiant reply that he knew it and that he knew what he was doing and that he had the finest trucks ever built. Yet within a year this same owner was endeavoring to trade in his trucks as part payment for trucks of another or perhaps "any other" make and telling everyone—except the salesman with whom he was endeavoring to trade—that the reason he was trading them in was because they simply would not stand up and were fit only for the junk heap. In this instance, the truck manufacturer and the user both suffered; the former in reputation and future business and the latter by reason of poor service and rapid depreciation of expensive equipment.

It may be in this case that the manufacturer was to blame: first, in his claims as to the ability of the truck to carry an overload safely, and, secondly, in failing to provide an ample margin of safety in designing and building the truck. For it is manifestly necessary to provide a generous margin of safety in any truck design; building a truck which would just carry its rated capacity and no more has been the reason for the failure of many seemingly good trucks. Ideas of the various makers as to the size of this safety factor vary greatly, and such a variation as we find will doubtless always exist and must continue in order to give proper scope to the designers and the business heads. We will always have the

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truck designed just about to "get by," and the truck which is the best that the maker can produce (which it is possible may in some cases be unnecessarily good for the job).

I have recently heard of an instance illustrating the possibilities of a solution. A manufacturer decided to re-rate one of his models and did so. He sent to all his agents new capacity plates, which plates increased the load capacity without in any way changing the chassis. The old plates were taken off and these new ones replaced them. This move may have been justified, but it raises some doubt regarding the increased rating.[1]

It appears that the only means by which this difficult situation can be cured is education—education of the maker, the salesman, the purchaser, and the user. When all become more familiar with truck capacity, present inconsistencies will disappear. For trucks will not then be sold upon the basis of what the maker chooses to stamp upon the capacity plate, but upon an examination of the truck itself to determine its horse-power, gear ratios, axle strength, tire equipment, design and construction, which determine its capacity for any given operating condition.

Being sure that the truck has ample reserve power and ample reserve strength in all its units does not only enable it to overcome the wear and tear due to day-in and day-out travel, but also to enable it to overcome those obstacles of "occasional" overload and adverse road conditions, which all trucks at times encounter and must master or go down in defeat.

Net—a firm realization in the mind of the purchaser that there is no set of standards to adhere to in the design and construction of motor trucks. Look before you leap!

Motor Vehicles in New York

Statistics supplied by the New York State Automobile Bureau show that up to October 1 the total registration of motor vehicles in New York City surpassed 1919 by 101,271 and 1918 by 233,602. Thus, for this year 208,000 passenger cars have been registered against 181,227 in 1919 and 142,457 in 1918. Motor wagon registrations exceed 1919 by 10,679 and 1919 by 13,115.

Growth of the city's transportation service is shown by the increased omnibus registration, which for ten months of this year surpassed the 1919 mark by 4,194 and the 1918 record by 6,473.

The following table shows total motor vehicle registrations in New York City for ten months of 1920 and full years 1919 and 1918:

	Ten Months,	Full Year	
	1920.	1919.	1918.
Passenger	208,000	181,227	142,457
Omnibus	16,000	12,806	9,527
Commercial	64,500	53,821	41,385
Trailers	1,400	992	896
Dealers	1,618	1,186	892

Alvan T. Fuller, eastern New England distributor of the Packard line, has been nominated on the Republican ticket for lieutenant-governor of Massachusetts. He has twice been a member of congress from the Boston district.

[1][See the edtorial entitled "Caveat Emptor" in Power Wagon for May.—Ed.]

South Carolina Will Regulate Motor Truck Speed and Weight

Rules governing the speed of motor trucks and the operation of trucks and cars and general highway regulations are being prepared by the State highway department of South Carolina following a conference with members of the South Carolina Automotive Association in Columbia recently. The recommendations of the automotive men will be the basis of the regulations.

The automotive men suggested, and the suggestion will probably be the new rule, that the speed of motor trucks equipped with pneumatic tires be 20 miles an hour; that of trucks with hard tires be 15 miles an hour; and that of automobiles as now fixed by statute.

The motor men also suggested to the highway department that every motor truck using the public highway be required to carry a mirror attached to the windshield, so that driver can see vehicles approaching from the rear.

Passenger cars will have the right of way over trucks.

No chains will be allowed on the wheels of motor vehicles except when the roads are wet and demand their use.

Dimmers must be used at night when other cars approach within 200 feet. When cars are not equipped with dimmers but with other devices, such as lowering light or spot light, the light must fall within 4 feet of the ground at a distance of 200 feet.

The weight of trucks is also to be regulated. The motor men have suggested that a 2-ton truck have 22 inches of tires at least, 4-inch tires fore and 7-inch tires on the rear wheels. The load and chassis together must not weigh over 9,000 pounds. For a 3-ton truck the tires must total 24 inches; for a 4-ton truck, 28 inches; for a 5-ton truck, 32 inches.

The motor men made other recommendations, and the highway department will also probably take some action on these. Among these are that all bridges be posted showing the speed and load they will carry, warning as to the sounding of horns at curves and the width of roads.

The regulations of the highway department will have the force of law, the 1920 highway act authorizing the commission to promulgate regulations governing traffic on the state highways.

18,000 Tons of Tobacco by Truck

Freight transported by four trucks owned by the Reynolds Tobacco Company, of Winston-Salem, North Carolina, in three months amounted to 37,166,000 pounds. To move this same freight would have required 620 railway freight-cars of 60,000-pound capacity each, and if all this material could be piled on 4-ton trucks, placed 20 feet apart, the line would be more than 35 miles long.

This record was made by three 3-ton and and one 4-ton Packard trucks. The drivers of these record-breaking trucks are coöperating to the fullest extent with their employers in applying the proper laws of transportation to their work. The record was estalbished during the months of June, July and August.

State Lists Show 7,904,271 Motor Vehicles as of July 1

631,983 TRUCKS IN ONLY 27 STATES

Figures taken from the latest reports of the secretaries of the various states indicate a very great increase in the number of motor vehicles in the United States. According to the records available there were in this country on July 1 no less than 7,904,271 motor trucks and passenger-cars, and of this total only 156,000 are based on estimates. Not all the states make separate returns for motor trucks so that it is impossible to obtain an accurate count of such vehicles. Those states which do keep distinct records show a total of more than 500,000, and the only really important states omitted from this count are Iowa, Minnesota, Missouri, Nebraska, Ohio and Texas. Estimates for some of these states bring the total for the country up to 631,983, but even this figure is incomplete. A total of 785,000 motor trucks is much nearer the truth, but accurate returns, when available, may show a somewhat higher figure. The estimated figures referred to are appended.

State	Total motor vehicles	Motor trucks	Passenger cars
Alabama	72,426	12,107	60,319
Arizona	29,803	(a)	(a)
Arkansas	56,862	(a)	(a)
California	421,327	30,281	391,046
Colorado	111,907	6,269	105,638
Connecticut	100,550	20,300	80,250
Delaware	16,600	(a)	(a)
Dist. of Columbia	43,329	(a)	(a)
Florida	67,118	9,476	59,045
Georgia	137,129	(a)	(a)
Idaho	46,360	(a)	(a)
Illinois	497,318	55,207	442,111
Indiana	302,308	28,852	273,456
Iowa	405,182	(a)	(a)
Kansas	253,896	11,690	247,756
Kentucky	94,065	11,087	86,239
Louisiana	61,967	(a)	(a)
Maine	51,783	6,337	47,219
Maryland	75,700	8,150	73,050
Massachusetts ..	233,258	45,710	187,548
Michigan	351,762	40,823	310,939
Minnesota	295,898	(a)	(a)
Mississippi	57,000	3,740	53,260
Missouri	258,478	(a)	(a)
Montana	52,100	(a)	(a)
Nebraska	212,130	b18,000	b194,130
Nevada	9,383	(a)	(a)
New Hampshire.	30,415	(a)	(a)
New Jersey	195,258	20,904	174,354
New Mexico ...	20,300	(a)	(a)
New York	486,262	98,669	387,593
North Carolina..	123,000	b11,000	b112,000
North Dakota ..	76,953	(a)	(a)
Ohio	567,000	b70,000	b497,000
Oklahoma	181,200	(a)	(a)
Oregon	89,993	(a)	(a)
Pennsylvania ...	506,085	42,050	464,035
Rhode Island ...	b44,000	(a)	(a)
South Carolina..	80,562	(a)	(a)
South Dakota...	114,408	7,216	107,192
Tennessee	90,774	10,369	80,405
Texas	298,234	(a)	(a)
Utah	37,261	4,801	32,460
Vermont	26,636	(a)	(a)
Virginia	105,000	b13,000	b92,000
Washington	143,561	22,041	121,520
West Virginia...	70,088	8,758	61,330
Wisconsin	280,452	15,146	265,306
Wyoming	21,250	(a)	(a)
Totals 7,904,271		631,983	7,272,288

(a) Not separately reported. b Estimated.

The Parker Motor Truck Company has just issued a new catalog describing its motor trucks. It is thought to be unique in that all selling talk has been omitted.

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Average Gasolene Prices Show Rise of 9.8 Cents Since 1916

Gasolene prices are now at their high record mark. They represent an average advance of 9.8 cents a gallon, compared with the beginning of 1916. In the five-year period two important advances took place, the first during 1916 and the other in the current year. During 1919 prices were practically stationary, being on an average two-tenths of a cent lower at the end of that year than at the beginning.

The present average wholesale price in eleven of the principal cities east of the Rocky Mountains is 29.5 cents a gallon. The highest quotation is 32 cents a gallon in Boston and Denver and the lowest is in St. Louis, where it sells at 26.2 cents wholesale. The highest prices are generally in the eastern states, while the lowest prices are in the middle west and southwest.

The first important advance during 1916 was brought about through the heavy demand for war purposes. Following the entrance of this country into the conflict in 1917, the price was stabilized and the changes during 1917, 1918 and 1919 were negligible. In 1916, the average price in the most important cities advanced from 19.7 cents to 21.8 cents a gallon, or 2.1 cents a gallon.

The following table shows wholesale gasolene prices in eleven of the most important cities east of the Rocky Mountains on January 1 of each year since 1916 in cents a gallon:

	Present	1920	1919	1918	1917	1916
New York....	31.0	24.5	24.5	24.0	23.0	21.0
Chicago	27.0	23.0	23.0	21.0	19.0	16.5
Philadelphia..	30.6	24.3	24.3	24.3	23.0	21.0
St. Louis.....	26.2	22.5	22.5	20.4	18.4	15.9
Boston	32.0	25.5	25.5	25.0	24.0	23.0
Baltimore ...	29.5	22.5	25.5	22.0	22.0	20.0
Dallas	30.0	23.5	25.5	26.0	22.0	20.0
Denver	32.0	25.0	23.0	24.0	23.0	22.0
Minneapolis..	28 2	24.0	24.0	22.0	20.0	17.5
Cleveland ...	30.0	23.5	23.5	24.0	23.0	21.0
New Orleans.	28.0	21.5	22.5	22.5	22.5	18.5
Average ...	29.5	23.8	24.0	23.2	21.8	19.7

The lowest price in any of the principal cities in 1916 was 15.9 cents a gallon in St. Louis. The highest that year was 23 cents in Boston. Present prices are relatively the same, St. Louis now being the lowest and Boston, with Denver, having the highest price.

Lower Tire Prices Unlikely

Officials of most of the larger tire companies are agreed that there is nothing in the raw material situation which warrants an immediate downward revision of tire prices. It is true, they say, that crude rubber at 25 cents a pound is less than half as costly as a year ago and that cotton fabric prices also have receded somewhat. But, it is pointed out, since most of the tire companies make provisions for their crude rubber and cotton fabric requirements anywhere from six to twelve months ahead, present stocks of raw materials and finished tires must be disposed of before prices can be lowered.

On the other hand, there are indications that a general reduction in tire prices will come sooner than these officials expect. With possibly a few exceptions the tire companies are carrying large stocks of finished tires which are not moving as rapidly as had been expected. Many dealers throughout the country whose shelves are loaded with tires are endeavoring to dispose of their stocks by offering tires at prices which eat up most if not all of their profit. The recent general falling off in demand for motor vehicles with its consequent reduction of output is depriving the rubber companies of considerable business which earlier in the year seemed assured.

Under these circumstances it is not unlikely that some of the weaker companies will be forced to attempt to liquidate their inventories by reducing prices. This is bound to have some effect on the larger concerns who may find it necessary to take similar action despite the fact that losses might be entailed.

From 1915 to 1918 tire prices climbed steadily higher. Last year there was a general reduction of from 15 to 25 per cent. but this was eliminated by a corresponding increase early this year.

Rubber Prices at Lowest Level

Crude rubber is selling at 22 cents a pound, the lowest price in history and lower than the production costs of many rubber growers. Some of the larger growers produce rubber at a cost of about 16 cents a pound, but production costs of most of the smaller concerns range from 25 cents to 30 cents a pound.

The fact that there is a substantial oversupply of crude rubber in the market accounts for current low prices. It is estimated that there are between 75,000 and 100,000 tons of crude rubber in the hands of manufacturers and dealers in the United States. Under normal conditions there are approximately 65,000 tons on hand. Practically every manufacturer of rubber goods and many dealers and speculators are holding rubber purchased at higher prices. For these reasons there is little demand.

A majority of the members of the Rubber Growers' Association have assented to a plan to curtail production 25 per cent during 1921. This is expected to reduce the supply of crude rubber by upwards of 50,000 tons during the coming year and with a resumption of motor vehicle buying on a larger scale, with its consequent demand for tires, it is believed in the trade that crude rubber will sell between 30 cents and 40 cents a pound.

Kentucky's Road Plans

According to the estimate of Joe Boggs, State Highway Engineer of Kentucky, the state road fund for 1920 will total $2,750,000. Of this sum $1,700,000 will be derived from the tax on motor horse-power, $450,000 from the 1-cent-a-gallon fuel tax, and $600,000 from the 3-cent road tax. These figures show that the motor owners of the state will pay $2,150,000 of the road fund, the remainder being derived from the *ad valorem* tax. The plans of the highway commission for next year call for the maintenance of about 300 miles of the state highway system designated by the last session of the general assembly, at a cost of $1,000 a mile.

Railways Are Losing Money on L. C. L. Hauls Under 50 Miles

"When we look at the picture presented by our railroad situation to-day we are indeed startled," says C. W. Reid, writing in the *Transportation World*. "Our 2,400,000 freight cars carry only about one-half their capacity and move about 25 miles per day per car. Box cars average something over 35 tons capacity, and yet hundreds of thousands of them are carrying less-than-carload freight, and hauling perhaps not more than 5 tons. While it is impossible to give the exact figures, we have a record of one investigation of the Cleveland, Cincinnati, Chicago & St. Louis Railway in which it was found that the average less-than-carload freight for a certain six-months' operation was about 5 tons. Nearly one-half of all the tonnage carried in the eastern district is coal.

"Very few records are kept by railroads as to their terminal and short-haul costs. From the best figures obtainable, it seems that their terminal charges amount to about 10 cents per 100 pounds at each end of the line. Terminal charges include the switching and placing of the car, loading and unloading, the clerical work necessary to take care of this work, and general overhead charges to be proportioned to these operations. An authority has said that it costs about $35 to deliver a car in Manhattan or Brooklyn after it reaches the Jersey terminal, while in Chicago it costs something like $10.35 and in a small city like Binghamton, New York, $1.80. The 20-cent terminal charge estimate does not cover a line haul, which is less than 1 cent. From this it may be deduced that the big charges are for loading, unloading and handling, and that unless a shipment goes a sufficient distance to warrant all this labor, the practice is uneconomical.

"Fifteen cents per hundredweight is a fair charge for cartage at each end of the line when considering less-than-carload shipments. Adding to this the terminal charges mentioned, we find that the transportation cost of this shipment, exclusive of the cost of the line haul, from door to door is 50 cents. From this it is reasonable to infer that for any locality to which the motor truck can deliver for 50 cents per 100 pounds or less it would be more economical to ship by motor truck. This does not take into consideration the advantage of making a delivery in a few hours, which on the railroad might take two weeks. It also covers only that merchandise which is shipped in the same manner by a motor truck as by railroad.

"It would seem reasonable to suppose that on all distances under 50 miles the railroad is losing money. If it is necessary to tax the long haul to make up for short-haul loss, it would seem practical to do away with the business which is carried at a loss. The thousands of cars, containing package freight, which come into stations to be broken up and redistributed to other roads, block the entire traffic stream and tie up through freight because an arrangement has not been made to transfer these small-lot shipments immediately by vehicles from the incoming cars to the railroad that is to carry it out. This delay holds up thousands of cars every week."

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Operation of Motor 'Buses

By G. A. GREEN

General Manager and Engineer, Fifth Avenue Coach Company, New York City

WE have adopted the following general procedure in connection with the carrying out of general overhauls:

(1) A sheet is posted in each garage showing cumulative daily mileage of each 'bus from the last overhaul; from this sheet it is possible to see at a glance which vehicles are due for general overhaul.

(2) The day previous to general overhaul each vehicle receives a special examination on the road by a qualified inspector; reports of this inspector are attached to general overhaul sheets. A special form is provided for this and on it are printed the items inspectors are required to examine.

(3) At night as the 'buses are turned in a specially trained mechanical inspector meets them at the garage entrance. The drivers hand their report cards to this inspector and at the time take up with him any matters that seem of more than ordinary importance.

(4) The night previous to the general overhaul the mechanism is thoroughly cleared. The 'bus is then placed over a pit ready for an organized attack on the following morning.

(5) The general overhaul sheet, which represents the history of a 'bus since its preceding general overhaul, is withdrawn from its binder, totaled up and placed on a board hung at front end of the 'bus. This sheet shows the drivers' names, mileage, gas and oil consumption; also the defects reported each day since the last general overhaul. There is also entered on the sheet a statement of the gas and oil averages of the vehicle as compared with the other vehicles operating from that division. The general overhaul sheet for each 'bus is brought up to date daily. The necessary data are obtained from the conductor's day card, the driver's report card and the division gas chart.

(6) During the process of general overhaul, gangs of specially trained experts deal with the various units. There is printed on each general overhaul sheet a summary of the duties of each section, the parts to be inspected, etc. This process is followed rigidly without any regard for the apparent condition of the vehicle. Details of the defects, if any, are obtained from the daily report card, which is carried on each 'bus. The drivers are required to enter chassis defects and the conductors all matters pertaining to the body.

Through the year we average about 6.5 miles per gallon of gasolene. This figure takes into account all shrinkages, leakages and losses of every kind and description. There are a very large number of high individual averages, some as high as 15 miles per gallon. We have a number of men who can give us 10 miles per gallon for weeks at a time. Of course, there are other men who give us low averages, but this is to some extent controlled by the class of service; for example, 'buses doing short mileage during the congested period of the day only are seldom high on our lists.

There are many reasons why we believe it is essential that special care and attention be paid to the matter of fuel economy. High gasolene averages from our standpoint mean

(1) Economy.

(2) Well-designed and maintained equipment.

(3) Skilled and contented operatives.

Gasolene is our second greatest item of expense. Our yearly bill is in round figures $500,000. Since 1 per centum of this amount represents $5,000 annually, it can readily be seen that losses of 1 or 2 per centum must be remedied, regardless of whether these losses are due to mechanical or physical disabilities. Increased labor and material expenses, and gasolene falls under the latter heading, cause us much greater anxiety than if we were manufacturing in the ordinary sense of the word, for we are selling a commodity which has a fixed price regardless of production costs. This means that every addition to our labor and material bills must be paralleled with some form of economy. If this were not done, we would soon find our expenses in excess of our income. For example, in 1911 our gasolene consumption averaged 2.9 miles per gallon. At that time gasolene cost much less than it does to-day, and if it had not been possible to increase our gasolene efficiency enormously it is quite possible that the Fifth Avenue Coach Company would now be out of existence. Not only is our gasolene bill the second greatest item of expense, but it is capable of greater reduction with less effort than any other single item. Furthermore, in achieving high averages, we accomplish at the same time many other desirable things. Our rising and falling gasolene averages are in effect the barometer on which we base our predictions. The gas barometer tells us in the most unmistakable language what is in store for us. Bad gasolene consumption means big fuel and repair bills with the prospect of still bigger bills in future; possibly also labor unrest due to general dissatisfaction.

To attain high averages it necessarily follows that one must employ well-designed and maintained equipment. Our vehicles cover an average of more than 100 miles per day. They are required to stop and start about 1000 times a day with several thousand gear changes, brake applications, etc. Furthermore, each vehicle is handled by several different drivers daily. None but the best materials will stand up under such conditions.

THE following ways and means have been adopted to secure and also to maintain high averages:

(1) All engines are put through a standard dynamometer test before being issued to the repair and manufacturing departments. After engines are installed few, if any, adjustments are found necessary other than the changing of jets.

(2) There is posted in a prominent position in each garage a sheet which shows daily the number of miles per gallon of gasolene for each vehicle. This sheet is constantly referred to by members of both mechanical and transportation departments. This information gives us a definite basis on which to work and it also permits all concerned to be in a position to see the results of their efforts.

(3) There is attached to each division one fuel expert and one driver who is not assigned to any definite run. The latter's work consists in taking out and operating in regular service 'buses showing low averages. His assignment is arranged between the fuel expert and the transportation foreman. We choose the most efficient of our drivers for this work. Obviously, the advice of such men is of the greatest possible value to the fuel expert.

(4) The fuel expert is provided with a special kit of tools together with an assortment of various jets. No carbureter adjustments are made by men other than the fuel experts. All jets are numbered and carefully calibrated and a proper record is made of all jet changes. The carbureter itself is specially built to give high economy.

(5) From time to time we organize various kinds of gasolene contests. These contests are useful not only because of the direct bearing they have on our gasolene and repair bills and mechanical efficiency generally, but also because they tend to create better fellowship, a friendly spirit of rivalry, a keener and deeper interest in our business and a closer understanding of our aims and aspirations, in short, our policy

(6) There is issued to the various departmental heads a weekly summary showing divisional gasolene averages. Comparisons are made with the previous week and also with the corresponding period of the previous year.

THE superintendent of transportation has charge of selecting all men for the transportation department, supervision of their training, administration of discipline, elimination from service, promotion, general study of traffic conditions, collection of statistics upon which running time and schedules are prepared, supervision of inspectional forces, receivers, timekeeper's and mileage departments, division foremen, etc. In this work the superintendent has a supervising force of forty-five men comprising foremen, heads of various departments, inspectors and starters.

The chief of the appointment bureau is responsible for all men employed. Generally, employes recommend applicants. Qualifications are preferably married men, 25 years or over, and those with army or navy training. Applicants must be over a specified weight and height. All applicants are courteously received by an examiner who questions them as to their previous experience. Those who qualify are permitted to fill out applications. They are then passed on to the chief, who questions them further as to their general qualifications and knowledge of the city. If accepted, the applicants are sent to the company doctor for physical examination and eyesight test. The superintendent of transportation then gives each applicant a short lecture on the policies and aims of the company. His photograph is taken by the company photographer and he enters the conductors' instruction school. His references for five years are in the meantime investigated and those references within 25 miles of New York City are checked up by a personal investigation. Only 20 per centum of all applicants qualify for the position of conductor.

The chief conductor instructor points out to students the duties they are required to perform, emphasizing courtesy toward passengers and the prevention of accident. Each student is then given various forms and descriptive matter and instruction in detail on these follows. Students are assigned to conductor instructors

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on the road to receive a practical working knowledge, and then return to the school for a final examination. Those passing the oral, blackboard and written examination with a proficiency of 75 per centum are recommended for appointment. Others receive further instruction until 75 per centum proficient. On an average, the instructional period covers four days. On the completion of the instructional period, the student is given a certificate by the chief conductor instructor which he brings to the appointment bureau. Assuming satisfactory references, the student is then outfitted by the company tailor. Finally, he is assigned to a division where a "get together" talk is given by the foreman before starting work. All new men are on probation for ninety days, during which time the chief conductor instructor rides with them as often as practicable for follow-up instruction, because it is impossible to inculcate all details of a conductor's position while in the school.

The men who man our 'buses, including instructors, inspectors, starters, etc., must all graduate from positions as conductors. Where men prefer to remain as conductors, no objection is raised. Based on averages, each conductor has an opportunity to become a driver after eight months' service. We attach great importance to the educational value of this system. A conductor soon learns traffic regulations. He becomes familiar with the requirements of our patrons. He also has the best possible opportunity to see and feel the results of mis-operation. A driver without a conductor's experience can scarcely realize what a conductor must contend with and he would be less likely to coöperate with the conductor. His experience as a conductor insures that he is aware at almost all times of exactly what is happening at the rear end.

Promotion to driver, which involves an increase in pay of 13 per centum, is determined by seniority. Promotion also depends upon the man's record while employed as a conductor. This prompts conductors to keep their records clear of violations. Conductors are recommended for promotion by their foremen and reexamined by the doctor. If passed, the records are examined by a board of review consisting of the superintendent of transportation, the chief driver instructor and the chief conductor instructor. If approved by the board, they are placed in the drivers' instruction school.

THE chief driver instructor points out to the students the duties they are required to perform. They are then shown on a stripped chassis the various units and the relation these units bear to the operation of the 'bus. Then they are sent to a divisional instructor and receive practical experience in driving on the road without passengers. Every third day the students are sent back to the school to receive additional mechanical instruction.

Upon passing the state examination and a license being granted, the student is permitted to drive a 'bus carrying passengers, under guidance of the service instructor, until competent to become a driver. He is then given a test by the chief driver instructor and if found satisfactory is recommended for appointment and assigned to a position as a driver.

On an average the instructional period covers sixteen days of 10 hours, the 160 hours being divided into 45 hours of mechanical instruction, the same amount of driving instruction without passengers, and 70 hours of driving instruction with passengers. As in the conductor's instruction, follow-up instruction is also given. From the time each man files his application for a position as a conductor to the time he is made a driver, the company expends practically $200 for his instruction.

Complete records are kept of each man. These are in folder form and consist of

(1) Application
(2) Reference blanks
(3) Photographs
(4) Doctor's examination certificate
(5) Complaints and commendations
(6) Violations
(7) Accident settlements.

The first part of the record consists of sheets arranged in chronological order showing entries of all violations, complaints, commendations, accidents, etc. When a conductor becomes a driver, the same record is continued and there is attached thereto his record of instruction as a driver, the doctor's reexamination certificate and the employe's contract; also a sheet showing entries of all delays together with reports covering their investigation.

IN the instructional period students are paid. This is in reality a loan and a contract is made in which it is stipulated that if the students remains as driver six months or longer, the loan is discounted. If he leaves the service prior to expiration of the six-months' period, the loan must be paid out of any wages due him.

'Buses are run in accordance with timetables very similar to those of any steam railroad. The construction of our timetables is a most difficult and expensive matter, much more so than with steam railroads and electric surface or subway systems. Because of the varying traffic conditions along our routes, we are obliged to have no less than six different running times. Of course, these are based on average conditions, since it would be impracticable to meet every variation. Any simplification of our time table arrangements must immediately result in a decreased speed. This would be unsatisfactory to the public and immensely costly to us. Our annual payroll for drivers and conductors is in round figures $1,000,000; therefore a 1 per centum decrease in speed represents $10,000 added to our wage expense. There are also changes in the different periods of the year and it is necessary to build new schedules when these become effective. Schedules must also be changed to take care of the varying conditions of riding. This change in riding must be closely watched and passenger counts are constantly taken at various points to determine just what service is necessary. Altogether there are ten time table changes throughout the year and modifications almost weekly.

There are nine separate lines, all of which converge on Fifth Avenue below Fifty-seventh Street. For the different periods of the day we at present operate the following number of 'buses per hour:

Period.	Buses per hr.	Headway, sec.
Morning rush	193	18
Midday	107	33
Evening rush	184	20
Sunday	111	25

Foremen, chief instructors, inspectors and starters patrol the routes for the purposes of regulating the operation of the 'buses and to give follow-up instruction to new conductors and drivers. We also employ an average of twenty operatives, in civilain clothes, in our inspectional bureau to check general operations on the road. Inspectors also make hourly checks of schedules, report bad pavement conditions and defective equipment; check conductors' register readings and talk to the men on minor violations. Serious infractions of rules are reported to the respective foremen of transportation. They in turn give a man four chances before sending him to the superintendent of transportation. We have instituted the "right of appeal" so that a man who feels an injustice has been done can take his case to the general manager and, if necessary, to the president.

Crews are allowed 10 minutes each morning and night for an inspection of their 'buses. The depot dispatcher is responsible for seeing that the 'buses leave the garage on schedule time. As soon as a 'bus reaches the terminal, it is then under the direction of the starters and the inspectors who direct the 'buses in accordance with schedules, copies of which they are provided with in small book form.

Arrangements must always be made ahead of time for the numerous parades traversing our routes. New routes must be selected and looked over for overhead structures, pavement conditions, etc., and men have to be stationed at the points where we turn off our regular routes and also those unprotected by traffic policemen, as well as at points where there are overhead obstructions. While parades do cause us considerable losses they do not prevent our operation, since it is simply a question of selecting other routes. Our organization provides for a number of alternative routes which have ben previously surveyed and the points established where men are required for directional purposes, etc. This is a very convenient arrangement and permits of changes being made on very short notice.

WE maintain a fleet of thirty-eight snow-plows and five sand-cars, with which we keep our routes open through the winter. The snow-fighting force is patterned after the fire department. Each section of our routes has its allotted plows in charge of a captain. Our organiatiozn is arranged so that regardless of the time of day or night a snowstorm starts, the required men automatically report for duty. When such conditions obtain, a complete system of centralized control automatically becomes effective.

We have an association for all employes which insures them for a nominal fee with death and sick benefits; also the free use of the company's doctor. We have a sunshine nurse and sunshine committee who take care of those who are ill or in trouble. In addition, we maintain a pension fund. We often give free legal advice through our attorneys to employes. Restaurants, recreation rooms, barber and tailor shops are maintained for our employes at each of our garages. We even provide sleeping accommodation in the winter for men who can not get home because of unfavorable weather conditions so that a man can prac-

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tically live at the plant with all the various accommodations provided. In our restaurants food can be obtained at practically cost price. The same applies to our barber shop. The service of the tailors is gratis. We have a house organ, *Bus Lines,* to which employes contribute items of interest, and generally the business is run on the basis of one great, big, happy family.

It has already been pointed out that motor 'bus operation is a comparatively new art. The possibilities of improvements, more especially from the viewpoint of design, are practically unlimited. This applies with respect to greater comfort and convenience as well as to economy of operation. These remarks do not apply in the same degree to any other form of surface transportation. In most cases, other systems are providing all the comfort and convenience that can reasonably be expected. Furthermore, it is scarcely to be hoped that further operating economies can be effected. As a matter of fact, insofar as one can judge, costs will rise rather than fall, for with the present high rate of personal and real estate taxes, high rate of wages, high cost of materials, etc., the greater the investment in property in relation to the gross income the less will be the possibility of profit. The 'bus requires the minimum investment in garage and repair facilities. The lower unit cost is a powerful argument in favor of its adoption.

Unquestionably if a motor 'bus service is to realize its possibilities of financial success, it must be backed up not only by ample resources, but it must also develop a high specialized organization. Experienced management and direction is imperative. The engineering force requires a special experience, for the demands upon the motor 'bus are quite distinct from the demands made upon any other type of motor vehicle. The needed traffic studies and schedule making are unique. The employes must be trained in a branch of motor-vehicle operation with many distinct and unique peculiarities for which the operation of neither the automobile nor any form of surface transportation affords suitable training. One of the chief differences between the 'bus and other forms of surface transportation is the matter of flexibility. As a matter of fact, we prefer to train men for drivers who have never had automobile driving experience. Furthermore, we find that railroad operatives, while they do possess useful knowledge, require to unlearn so much that on the whole it is more satisfactory to employ men without this experience.

Unquestionably the wisest policy both from a financial standpoint and the service results to the city is to entrust a single well-organized and equipped company, possessing ample resources, with the development of a unified motor-bus service. Parcelling out streets to two, three or more companies will never provide the Pullman car service which the true motor 'bus can give. If the parcelling out process is adopted and the several companies are of a nondescript character with the usual type of jitney equipment, the outcome can only be chaos. The actual result of any form of competition must be multiplied fares and no transfers. With a unified system there can be no harmful monopoly, for the fare should be determined by the authorities and the company should be under public regulation, but so-called competition from a public utilities standpoint means bad service and financial failure. Cities can not be prosperous without efficient utilities and utilities can not be efficient without prosperity. To cite an example of the evil effects of 'bus competition, one need only point out London's early 'bus experience. This soon convinced both the stockholders and the general public as to the unwisdom of this policy.

No satisfactory motor-bus service can be given with seats for all on the basis of a 5-cent fare. It costs the Fifth Avenue Coach Company about 8½ cents for each passenger carried. A large proportion of our daily mileage is operated at a loss. Checks show us exactly where these losses occur, but we do not try to avoid them. We are satisfied that by careful management on the whole a profit can be made and that in the long run we should surely lose if we merely cut our service to suit our local conditions. We know that our success must depend on the good-will of the public and it has always been our aim to give in exchange for our earnings an equivalent measure of helpful service.

Unquestionably in the larger centers it is desirable that the workers should be able to get away from the busy centers of industry and congestion to more wholesome home surroundings in the outlying districts and everything should be done by city authorities to encourage this. Nothing is of more importance in this respect than providing, expeditious, healthy, comfortable and easy means of public conveyance to and from these points. Of course, the development of the outlying districts raises values so that the city will in this manner obtain increased income from taxation. This is quite an important consideration.

Clearly, where car tracks do not already exist, the most careful thought should be given before they are installed. Quite apart from this, from a public service as well as an operating point of view, there can be no question as to the possibility of using 'buses for

(1) Extending the service of existing car lines by a bus system into the outlying districts through the introduction of transfer privileges between the two

(2) Extending service, the conditions of the streets permitting, into outlying districts without a transfer between buses and the cars and without disturbing the present local business or business logical to the existing car lines by permitting the buses to operate beyond the present outlying terminus of street cars and diverting the buses to other parallel routes after reaching such outlying terminus.

There is one point I should like to make particularly clear. In my judgment, no type of 'bus designed up to the present is capable of properly handling peak loads. Of course, there are possibilities in regard to a suitable development along these lines, but as yet these have not been achieved. In my opinion, the theory that the car systems in any of the larger cities can be supplanted by any standard type of 'bus now obtainable is absurd and not worth any serious discussion. No man with any elementary transportation knowledge would think of backing such a statement. The 'bus is not more economical than the trolley car on the basis of cost per passenger carried, which is the only real basis. Obviously, it is useless to compare the cost per mile of two vehicles of such vastly different seating capacity.

It should be borne in mind that the financial success of the Fifth Avenue Coach Company is largely due to the 10-cent fare. On a 5-cent basis its development would have been absolutely out of the question. In saying that the 'bus cost per passenger carried is not less, and is perhaps greater, than that of the trolley car, I should also add that I am sure the public will gladly meet the difference since the comfort and convenience of a 'bus have much greater possibilities than is the case with the trolley car.

Drastic License Bill Up for Consideration in New Jersey

The New Jersey legislature, which meets on November 8, will consider a bill, Senate Bill No. 331, which proposes new license fees for motor vehicles. Under the proposal automobile owners will be required to pay $7.20 annually on vehicles having 10 horse-power or less instead of $4.50 as at present; $10.00 on vehicles having from 11 to 20 horse-power instead of $7.50 on a horse-power range of from 11 to 30; and 50 cents per horse-power on all vehicles having a horse-power of 21 or more instead of $15.00 for all vehicles of 30 horse-power or over.

The proposed fees on motor trucks, based on the capacity of the vehicle, are contrasted below with the rates now in effect:

Capacity of Vehicle in Pounds.	Present Fee.	Proposed Fee.
1,000 or less	$ 6.00	$ 7.20
1,001 to 2,000	9.00	$ 10.80
2,001 to 3,000	12.00	15.00
3,001 to 4,000	15.00	20.00
4,000 to 5,000	17.00	25.00
5,001 to 6,000	19.00	30.00
6,001 to 7,000	21.00	35.00
7,001 to 8,000	23.00	40.00
8,001 to 9,000	25.00	45.00
9,001 to 10,000	27.00	50.00
10,001 to 11,000	29.00	60.00
11,001 to 12,000	31.00	70.00
12,001 to 13,000	33.00	80.00
13,001 to 14,000	35.00	90.00
14,001 to 15,000	37.00	100.00
15,001 to 16,000	39.00	110.00
16,001 to 17,000	41.00	120.00
17,001 to 18,000	43.00	135.00
18,001 to 19,000	45.00	150.00
19,001 to 20,000	47.00	165.00
20,001 to 21,000	49.00	180.00
21,001 to 22,000	51.00	195.00
22,001 to 23,000	53.00	210.00
23,001 to 24,000	55.00	225.00
24,001 to 25,000	57.00	240.00
25,001 to 26,000	59.00	255.00
26,001 to 27,000	61.00	270.00
27,001 to 28,000	63.00	285.00
29,001 to 30,000	67.00	300.00
28,001 to 29,000	65.00	

Locomobile and Mercer Join

Consolidation of the Locomobile Company and the Mercer Motors Company under the title of Hare's Motors has been approved by the directorates of both companies, and stockholders shortly will be asked to ratify the action. Net assets of the two consolidating companies will exceed $11,000,000. The Simplex Company, which was taken over by Mercer last spring, automatically becomes part of the new arrangement. The consolidation affects only the manufacturing companies, the Locomobile factory at Bridgeport and the Mercer plant at Trenton. The operating company, Hare's Motors, Inc., will continue as the operating and distributing company. The new company will manufacture the same lines as heretofore.

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A New Commerce Truck

The Commerce Motor Car Company, of Detroit, has anounced an addition to its line of light motor trucks in the Mercantile Express, which will have a chassis list price of $1,350 and correspondingly low prices on three types of bodies: open express, platform with convertible stake, and open express with canopy top. The new 1921 model will have a maximum speed of 40 miles an hour, be equipped with electric starter, electric lights and a magneto. It will have a pay-load capacity of 1,500 to 2,500 pounds.

Power is furnished by a 3¾ by 5-inch Continental motor and is transmitted to the bevel-gear Salisbury rear axle by a Spicer tubular propeller-shaft using two Spicer universal-joints. The transmission, a Detroit, is in unit with the motor. The clutch is of the cone type 14 inches in diameter. Brakes are 16 inches in diameter. The wood artillery wheels will carry 34 by 4½-inch Goodyear nonskid pneumatic cord tires front and rear. The springs are manufactured by the Detroit Steel Products Company and 8 leaves front and 10 leaves rear. The steering gear is Jacox; the carbureter Zenith with Stewart vacuum feed. The gasolene tank, 15-gallon capacity, is under the front seat. The cooling system is thermo-siphon with cast-tank radiator, capacity 4 gallons.

Mack Sales Increase

According to a recent announcement by the International Motor Company, the demand for motor trucks is maintaining its steady increase in spite of what would seem to be adverse general market conditions. Sales of Mack trucks for September represented a 9 per cent. increase over August. Comparing this year with last, the company states that September, 1920 showed a 44 per cent. increase over September, 1919. For the three months period ending September 30, Mack sales in 1920 were 24 per cent. greater than in 1919.

A significant fact is the tendency toward a greater use of large capacity trucks. Taking the three months period ending September 30 as a basis, the sales of Mack trucks of capacities from 5 to 7½ tons increased 55 per cent. this year over last year. This indication of the economies offered to shippers by big unit hauling bears out the belief that transportation costs can be reduced by encouraging the use of the large capacity truck.

Standard Parts Reorganization

Reorganization committee of the Standard Parts Company of Cleveland has proposed a refinancing plan calling for the creation of $6,500,000 6 per cent. class "A" preferred stock and $3,000,000 8 per cent. debenture stock. Of the preferred stock $4,500,000 is to be offered to present shareholders in amounts equal to 25 per cent. of their holdings and to common stockholders on a basis of 20 per cent. of their holdings. It is understood that Cleveland banks are to extend $4,000,000 credit when subscriptions are completed. The plan has been approved by the common and preferred stockholders' committees and by the creditors' committee, which has agreed to extend claims over a period of one year when the refinancing program has been consummated.

Preferred stockholders who subscribe have the privilege of converting their present holdings share for share into class "A" preferred stock up to 50 per cent. of their subscription and common shareholders up to 20 per cent. of their subscription.

Hare's May Absorb Kelly Truck

In connection with plans to increase the common stock capitalization of the Kelly-Springfield Motor Truck Company, Springfield, Ohio, from $2,000,000 to $4,000,000, steps looking toward the merger of that concern with Hare's Motors, Inc., have been considered. A coördination of executive departments, a pooling of selling forces and an interlocking directorate are probable developments of the plan. M. McMillin of New York, who is the principal stockholder in the Kelly company, was recently made a director of Hare's Motors, Inc.

Parish & Bingham's Earnings

Earnings of Parish & Bingham for the month of August were $111,616 before taxes, which is at an annual rate of $8.09 a share. After ample reserves for taxes and contingencies, net earnings were $75,616, equal to an annual rate of over $6 a share. Sales for September were $50,000 ahead of August. Production of Ford frames, which has been running about 3,000 a day, will be increased shortly to close to 4,000 a day. Net earnings after tax reserves for 8 months were in excess of $3 a share.

Moline Plow to Build Trucks

The Moline Plow Company, an old-established farm implement manufacturer of Moline, Illinois, has decided to manufacture motor trucks for the farm market, the first model announced being a 1½-tonner, to be known as the Moline, model 10. Distribution will be effected through the company's tractor and implement dealers. To reduce manufacturing costs many of the parts in the truck and the company's tractor have been made interchangeable.

Commerce Truck Resumes

The Commerce Motor Truck Company, which has been closed since July 1, has resumed operations. Walter E. Parker, president, said that the plant was closed when it became apparent that the credit restrictions would reflect on the motor truck industry. Since then, he said, the company has worked off its high priced inventory in the form of finished trucks with the result that it was able July 1 to announce pre-war prices for its product for the coming year. In the first quarter of October the company received more orders than in August and September combined, Mr. Parker said.

Aries Truck to be Sold Here

The Aries truck, a 4½-ton chain-drive vehicle manufactured by an old-established French firm, has again been introduced to American trade, this time by P. Basset, 120 Broadway, New York. Its price is $3,500 f. o. b. New York.

Pierce-Arrow Earnings

For the three months ending September 30, 1920, the Pierce-Arrow Motor Car Company reports a surplus, after charges and Federal taxes, of $355,310, equivalent, after preferred dividends, to 62 cents a share on the 250,000 shares of common stock. This compares with a surplus of $705,779, or $2.02 a share, in the preceding quarter, and $476,852, or $1.10 a share, in the corresponding quarter of 1919.

Earnings for the three months ended September 30, 1920, compare with corresponding periods of previous years as follows:

	1920	1919	1918
Net operating profit	*$592,827	$749,045	$1,338,129
Interest, taxes, etc.	237,517	272,193	451,370
Surplus	$355,310	$476,852	$886,758

*After expenses, maintenance and depreciation.

The surplus for the nine months ended September 30 amounted to $1,778,354, equal to $4.71 a share on the common stock after deduction of preferred dividends, and compares with $1,670,540, or $4.28 a share, in the same period of 1919. The income account for the nine months ended September 30, 1920, compares as follows:

	1920	1919	1918
Net operating profit*	$3,247,026	$2,664,746	$5,188,102
Interest, Federal tax, etc.	1,468,672	994,206	2,155,447
Surplus	$1,778,354	$1,670,540	$3,032,655

*After expenses, maintenance and depreciation.

Ten-Ton Limit on Truck Loads

An ordinance adopted by the board of supervisors of San Bernardino, California, places a limit of 10 tons on the load that can be carried by a motor truck and any number of trailers. The action was deemed necessary to prevent further damage to county highways, the supervisors said. The state limit was further reduced by the provision that the weight per inch of tire width shall not exceed 750 pounds for pneumatic tires, 650 pounds for solid tires, 600 pounds for steel tires. The measure is the most drastic truck weight regulation in the state.

Rueschaw Back With Reo

After an absence of three years, during which he acted as general manager and vice-president of the Mitchell Motor Car Company, Robert C. Rueschaw, for twelve years sales manager of the Reo Motor Car Company, has returned to the Reo organization in his old capacity. During his connection with the Mitchell concern he was succeeded at the Reo plant by F. H. Akers, who was formerly his assistant there and who has now resigned.

Kelly-Springfield Tire Dividends

The Kelly-Springfield Tire Company has declared regular quarterly dividend of $1 a share in cash and 3 per cent. in stock on the common stock and regular quarterly dividend of $2 a share on the 8 per cent. preferred stock. Common dividends are payable November 1 to stockholders of record October 15. The preferred dividend is payable November 15 to stockholders of record November 1.

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Standardization of Truck Units Important for Army

NON-INTERCHANGEABILITY A HANDICAP

"By urging standardization, pooling and combining operation and maintenance in a motor transport corps during the war, those officers who were charged with organization and operation excited great opposition and distrust from those who operated locally," says Colonel B. Taylor of the United States Army. "In the most successful motor transport organization in France, three main divisions of motor transportation were considered, operation, maintenance and administration, with full controlling authority over both operation and maintenance vested in the administrative head. Organizers who failed to place full control over driver and mechanic in one authority found waste and excessive extravagance for which responsibility could not be fixed, and the full operative power of the organization was lost. Within the simple triangular organization of operation, maintenance and administration there were many auxiliary functions to be considered carefully and provided for.

"The number of spare parts required for repair and maintenance by any one vehicle had to be multiplied by the number of different makes of vehicles serving in a section, approximately 200. For practical purposes, but 30-odd principal makes were considered. Although among the 10,000 officers and men serving in the Motor Transport Corps advance section there were experts from all branches of the automobile industry, it was impossible to find anyone who had handled the supplies of more than half a dozen makes of vehicle in commercial life. The handling of so many parts of so many different types and makes was very confusing to all who struggled with the problem, and bitter complaints from divisions hard pressed for transportation never ceased.

"For convenience, assume the average number of spare parts for a motor vehicle is 2,500, with 80 per cent. non-interchangeable. Therefore, 400,000 different items in automotive supplies to be produced, shipped, stored and issued in various quantities, had to be considered if all the vehicles in use were to be maintained. Of these, the greatest number we were able to obtain from the United States was a little less than 90,000. Under the conditions which existed the procurement, shipment, storage and issue of the number of parts required for the upkeep of motor vehicles used by the armies in operation against the enemy constituted a problem impossible of solution. Standardization and reduction of motor vehicles to extremely few makes was obviously necessary. To enable a park to make all repairs that might be required of it by divisions in its vicinity it would have been necessary to fill its storerooms with sufficient quantities of spare parts for 20 or 30 different makes of vehicle—an impossibility.

"The spare-parts problem was simply a hopeless maze of confusion because of our failure to provide standardized motor transportation before the war. It was further complicated by waste in unorganized operation and the fact that no one authority was given the power to control and coordinate the relation between procurement, shipment, distribution, operation, repair and salvage.

"The simple question is always asked, 'Why not reduce the number of vehicles to one or two, or half a dozen makes for future military service?' The service is bending every effort toward such reduction by standardization. The desire within the army of officers of different branches to enforce their individual ideas for the adoption of the make and type or special design most favored by them is in itself difficult to overcome. Further, there is the pressure from without to adopt the makes and types in which manufacturers and supply agencies are interested. Regardless of the merits of this or that vehicle or make and individual ideas and interest, it is absolutely certain that unless the number of makes of vehicle employed by the army in time of war is reduced to a practical minimum, failure of motor transportation will be only a matter of time, leading inevitably to failure of both the supply branch and the combat branch of the army. The point, at which the necessary mobility of an attacking army is reduced so that further advance or even retreat is impossible, was uncomfortably close in our armies when the armistice was signed on November 11, 1918. This was due mostly to the lack of preparedness in the United States for military transportation. Within the army lack of proper organization of operation and maintenance functions of motor transportation under one executive authority and lack of coördination of all auxiliary functions embraced all difficulties of any consequence. If the importance of standardization is disregarded, commercial transportation will suffer nearly as much as we did in the army. The development of operative power and capacity is only just beginning. The organization of operation and maintenance under one controlling authority and the coördination of independent interests in developing motor transportation seems not to have been very widely or deeply considered."

Grocers Denounce Railroads

The Southern Wholesale Grocers' Association of Jacksonville, Florida, has made a plea to the railroads for better service in l. c. l. freight shipments, stating that the service rendered in handling less-than-carload freight is in a rut, and that the present state of affairs, so far as the wholesale grocers are concerned, has existed for the past 15 or 20 years; that while the method of handling carload shipments has advanced, l. c. l. shipments have suffered greatly. As the great bulk of their business constitutes shipments to small retail grocers, this association believes more attention should be given to the development of this short-haul l. c. l. business. A few months ago at its convention in St. Louis, this association by resolution endorsed the motor truck as being paramount for handling business of this character.

1920 Exports of Motor Cars Have Set a New High Mark

24,356 TRUCKS SENT ABROAD THIS YEAR

The whole world seems to be demanding motor vehicles and is looking to the United States for its supply. Records of the Department of Commerce for the fiscal year 1920, just ended, show that motor vehicles and parts valued at $232,252,376 were shipped from this country. This was nearly nine times the total value of such exports before the war.

The number of motor trucks exported during the twelve months ended June 30 was 24,356, valued at $41,577,684 as compared with 12,921 valued at $33,233,485 in 1919. Passenger-car shipments showed an even greater increase, the total being 115,519 valued at $125,384,025 as compared with 41,291 valued at $45,852,705 the year before.

The United Kingdom led in the imports of both commercial and passenger motor vehicles, taking 4,593 of the former and 17,528 of the latter. Canada was second in the matter of both types of cars taking 2,443 trucks and 9,993 passenger vehicles. Cuba imported 4,663 passenger cars and 1,526 trucks. Brazil was next behind Canada in imports of passenger cars to the total of 6,109. British India imported 8,144 passenger cars, and British South Africa 5,752. Australia took 5,898, Argentina 3,343 and New Zealand 5,238 passenger cars.

The Scandinavian countries also were heavy purchasers of passenger automobiles, Norway taking 3,035 and Sweden 4,055. Spain purchased 2,714, Denmark 2,374, China 1,059, Uruguay 2,754, Peru 1,051, Mexico 2,749, Philippine Islands 2,444, and Chile 619. France imported only 839 passenger vehicles, but it took 1,392 motor trucks. Japan purchased 1,096 trucks and Mexico 1,017.

American motorcycles also continued in heavy demand, a total of 35,041 valued at $9,550,022 being exported during the fiscal year.

The demand for American machines brought with it a corresponding demand for equipment. The value of tires exported during the fiscal year 1920 was $39,919,777 as compared with $22,630,200 the year before. The total of engines shipped was 39,421, valued at $6,070,449, compared with 28,445 valued at $4,434,244 the year before.

Leindorf Will Sell Ace.

The Equitable Motor Truck Company, Inc., has been selected as eastern distributers for Ace motor trucks, occupying a new building covering 40,000 square feet from 136th to 137th street on Madison avenue, New York City. E. Leindorf, president and general manager of the company, believes that satisfactory relationship between dealer and user can only be obtained when the dealer backs his product with efficient high-class, 24-hour service. In years of successful motor truck selling in New York he has never overlooked an opportunity to make each transaction a personal issue, wherein he injects a personal touch which brings to life a close and pleasant relationship between dealer and user for all time. Mr. Leindorf was formerly assistant sales manager of the Studebaker Corporation, motor truck division, New York branch, and more recently retail sales manager of the Rainier Motor Corporation, New York.

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Interurban Railway Uses Trucks and Trailers

2,000,000 Pounds of Merchandise Handled in One Month by Fleet of 4-ton Vehicles

RURAL transportation facilities in southeastern Wisconsin raise the percentage of farm products reaching market in that section considerably above the average for the United States as a whole. It is estimated that only 50 per cent. of the perishables now grown in this country ever reach market. Deducting a further waste at the markets, agricultural authorities agree that the ultimate consumer, as a general rule, has available but 35 to 40 per cent. of the material produced.

One of the greatest factors in reducing this waste in the lower section of the Badger State is the system of electric railway and motor truck lines operated by the Milwaukee Electric Railway & Light Company. By means of this more adequate system of transportation the farmers are getting a larger share of the profits due them and at the same time the cost to the ultimate consumer is being reduced. Both farmer and consumer are vitally interested in the truck lines. Some time ago officials of this company realized that their express facilities were inadequate for all the people in the territory they served. However, the extension of their electric lines was not advisable on account of the prohibitive cost of construction.

Regular motor truck express lines to operate from the terminals where the trolley lines ended were decided upon as the best means of supplementing their service. Packard 4-ton trucks with pneumatic tires were the units selected. They were equipped with special inclosed bodies and 4-ton Highway trailers and put to work over the following routes:

From:	To:	No. of Trucks.	Round Trip Distance.
Watertown	Whitewater	3	62 miles
Watertown	Beaver Dam	3	52 miles
Watertown	Madison	3	84 miles
Burlington	Lake Geneva and Williams Bay.... (Two round trips a day.)	1	36 miles
Burlington	Elkhorn and Delavan	2	52 miles

Besides these trucks one is held in reserve for emergencies and overflow traffic. The trucks ordinarily carry full loads outbound and about 40 per cent. loads on the return trip. They deliver and pick up everything from a washing-machine to a calf. A shipment received anywhere in the system of electric and truck lines before noon of one day is delivered to any other stated point in the entire system the next day.

H. G. Monger, Traffic Manager of the M. E. R. & L. Company, in reviewing the company's work, said: "The first essential of our business is reliability. Our shippers must know that the service will be uninterrupted. At the present time we are hauling over dirt and gravel roads which do not permit us to carry much over 4-ton loads. At that, if we were to extend our electric lines at the present prices of materials, the cost of hauling a ton of freight a mile over the new lines would be the same as hauling it a mile on the trucks. Our present lines were all built some time ago when the cost of construction was half what it would be now, so the lines do their hauling for less than the trucks.

"But this emphasizes another point; namely, the direct effect of good roads on the shippers' and haulers' profits. Where each one of our lines is now operating bonds have been voted for improved roads. When these are built, we will be able to haul loads of 18-tons on trucks and trailers. As an electric freight-car handles but 30 tons, it is easy to see the advantage the trucks will have over the rail carriers.

"We have found that where we have had any kind of roads at all, on the routes over which the trucks now operate, the traffic of our pneumatic-tired carriers has improved the highways rather than damaged them. A loaded narrow, steel-tired wagon will tear up a road where the broad tired truck packs it down and makes it a smooth highway. Of course, where we had mud roads to start, we have little or nothing now, for there was no foundation to work on."

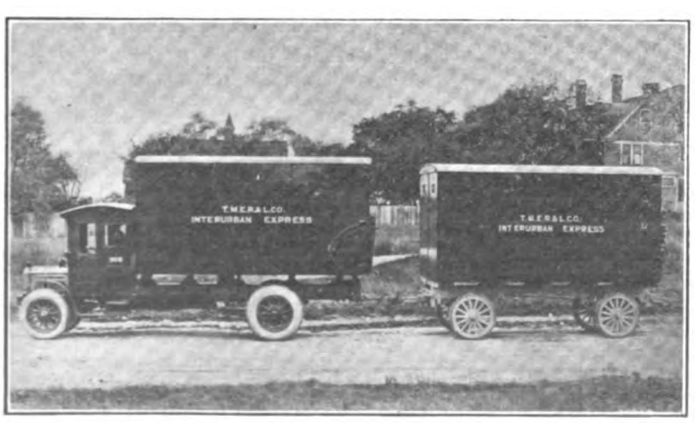
From the first day the trucks were in operation more business has been offered the company than could be handled with the vehicles. The figures of 2,000,000 pounds of delivered express in July give some idea of the extent of the company's truck operations.

Although the company was not equipped for the emergency of last year's particularly severe winter, the trucks kept the routes open and the freight moving regularly. Continuous operation in all kinds of weather is essential to the success of rural motor truck express lines. Organizations conducting such lines have found, through actual experience, that truck reliability is absolutely necessary to the successful hauler over country roads. In order to be useful and worth while, the motor truck line must be one upon which the farmer can depend. Motor truck lines have earned this reputation in many parts of the country.

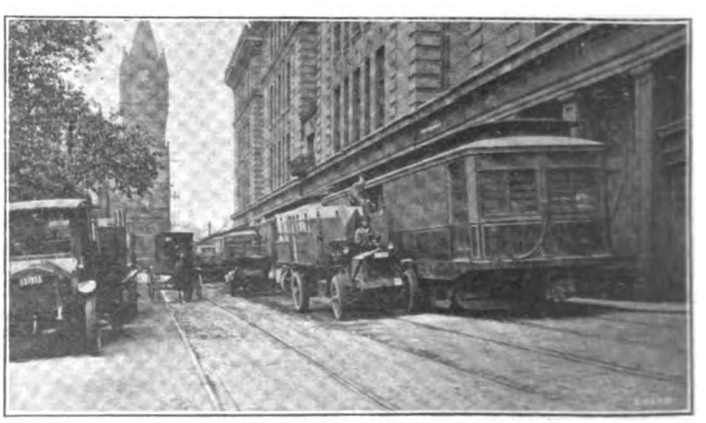
The Milwaukee Electric Railway & Light Company believes in doing everything possible to increase the efficiency of its carriers. Adequate garage facilities are provided at each of the terminals. Just as soon as the improved roads permit larger loads, the truck and trailer bodies will be loaded in Milwaukee and sent out to the terminals to be transferred to the trucks. At present all the material has to be reloaded at the terminals.

Co-operative Trucks in New York

Plans are being laid to introduce the coöperative idea of motor truck transportation in western New York. The farm bureau managers of Chautauqua, Cattaraugus, Orleans and Niagara Counties, representing about 50,000 farmers, are enthusiastice about this form of motor truck ownership. They have all requested that some one speak at their annual meetings next winter. The idea of coöperation is strong in this district and it is believed several such lines will be in operation next spring, especially in the district where dairying is the leading farm activity.



One of the Milwaukee Electric Railway & Light Company's tractor-trailer outfits.



Motor trucks and electric interurban cars join hands in providing good transportation.

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Why Reductions in Truck Prices?

Letters from Leading Power Wagon and Parts Manufacturers Show Various Shades of Opinion on the Question of What Constitutes the Proper Policy

To Assist Country-Wide Movement

To the Editor.—The reductions we have announced were made to assist in the country-wide movement to reduce prices and will not have any effect on wages. We do not want to pose as philanthropists when we tell you that this action was taken in spite of the fact that all but two of our sources of supply informed us that they could foresee no reduction in their prices. But, we sincerely believe that this is the only way of ever bringing prices back to a normal basis, and we anticipate that our other sources of supply will soon join this movement.

STANDARD MOTOR TRUCK CO.,
F. J. Fisher, *Secy.*

Detroit, Mich.

Stocks Preclude Reductions

To the Editor.—There will not be any reduction in the prices of Reo passenger cars or speed wagons. Our stock of material is sufficient to carry our present production schedule well into spring months, precluding any possible reductionl in prices until present stocks are exhausted.

REO MOTOR CAR CO.,
F. H. Akers, *Sales Mgr.*

Lansing, Mich.

Can't Sell at a Loss

To the Editor.—"We are contemplating no reduction in price and October 1 increase will be effective. Reduction in price at this time indicates either excessive list price with larger margin, or great stocks on hand, or extreme bid for business. Bethlehem never over-priced, not over-produced and can not destroy your business and our own by selling at loss. May find another increase necessary November 1." This telegram was sent to our distributers to allay any fears that they may have had in ordering trucks out at present prices, and to give them the opportunity of ordering trucks shipped in September before the October 1 prices become effective.

Interest has been occasioned in the announcement of the reduction of prices by the Ford Motor Company. We have been taught by Mr. Ford to expect the unusual from the Ford company at the most unusual time. I have only to recall to your mind the excessive wages paid by that company in order to enable him to control Detroit labor and have only to cause you to recall how the high labor price, as a result, affected the price of motor cars and trucks. In the announcement of the Ford decrease it was stated that the Ford company had 140,000 unfilled orders. Based on its manufacturing schedule of 4,100 cars a day, this is only slightly over a month's capacity. It is readily seen that a business as gigantic as the Ford business must through necessity be able to plan further ahead than a month.

Motor trucks will not be cheaper until the raw material and labor costs are cheaper. Cheaper material and cheaper labor can only come gradually. In one week we had two more price increases in the material which goes to build Bethlehem trucks, one of which was a 10 per cent. increase in tires. In face of constant increases it is not possible to reduce prices, if our distributers and ourselves are going to stay in business.

BETHLEHEM MOTORS CORP.,
Roy Davey, *Gen. Sales Mgr.*

Allentown, Pa.

Reductions Will Help Sales

To the Editor.—Ford's announcement will stimulate his sales and curtail his competitors. We announced reduction in Stewart truck prices primarily to assist our dealers doing business. Now the public is convinced that lower prices are coming and will not buy until it receives them. We will sustain loss on present inventory, but are willing to make the sacrifice to help put business on pre-war basis, thus insuring prosperity and full employment of labor.

STEWART MOTOR CORP.,
P. R. Lippard, *Pres.*

Buffalo, N. Y.

No Signs of Reductions

To the Editor.—I can see no relation between Henry Ford's price policy and Acme policy. I can not account for his policy. Perhaps his ability to build up such an enormous surplus is the answer to his ability to make a reduction at this time. Acme policy has always been conservative with reference to price increases and will be the same with reference to reductions. We do not contemplate a reduction now. As materials and parts decrease in cost, Acme prices will be decreased in small amounts at frequent intervals. At the present writing there is no indication of cost reduction to justify price reduction.

ACME MOTOR TRUCK CO.,
C. J. Helm, *Sales Mgr.*

Cadillac, Mich.

Cut Prices and Production

To the Editor.—I can not see that Mr. Ford's announcement will have any immediate effect on truck prices. The psychological effect on all manufacturers of all commodities may be such as to cause a further slowing up of production. If this happens, it is bound to increase the supply of labor. This in turn is bound to reduce labor rates, which naturally will reduce materials costs. At the same time, with less work to be done by various manufacturers, they undoubtedly will figure more closely than they have in the past, so that at the end of a period something may be accomplished in the reducing of costs through this process.

As far as this company is concerned, we never have attempted to make an undue profit upon our product. There is nothing in our costs or cost tendencies at present which indicates a lessening which would permit of reduced prices. However, we don't know what the future holds and, therefore, are guaranteeing to our distributers that, if our prices are reduced within a reasonable length of time, we will rebate to them the difference in distributers' prices on vehicles delivered in the interim, and we in turn would expect them to rebate to the purchaser.

PACKARD MOTOR CAR CO.,
G. R. Bury, *Gen. Sales Mgr.*

Detroit, Mich.

Labor Is Chief Cost Element

To the Editor.—We do not believe that the reductions in passenger car prices will have any effect upon motor truck sales. In so far as we are concerned it can not have, for there has been no inflation in our prices, so they can not come down. Labor constitutes the greatest individual item of cost in our truck, and next comes material. Skilled labor costs as much as ever—some of it more—for we need the best of highly skilled labor to build our product properly. Our material costs have not decreased, nor can we see where any decline is coming in the near future.

Good motor trucks will have to be sold upon the basis of their cost, which represents material and labor. Passenger car price reductions can not possibly have any effect upon people who want high quality in motor freight transportation. United States motor trucks have not one dollar of inflated value. To reduce our prices would be to sell goods below cost. We have guaranteed the public and our dealers that our prices will remain without increase until the spring of next year. The increasing demand for United States motor trucks is sufficient evidence that our opinion and position are correct.

UNITED STATES MOTOR TRUCK CO.,
Forrest J. Alvin, *Gen. Mgr.*

Cincinnati, O.

No Change Before July

To the Editor.—The fact that reductions have been made has undoubtedly unsettled conditions in the automobile and truck industry, for the reason that dealers and prospective purchasers are uncertain as to whether reductions will be made by others or not, and to that extent business will be affected temporarily until prices have been stabilized by announcements made by individual manufacturers. So far as we are concerned, no price reductions can be made for many months to come. We have made our contracts for material in good faith and, as there have been no reductions in the price of material or labor and as we have based the price of our products most carefully on our costs of material and labor, we can see no possibility of a change in our prices between this date and July, 1921. The percentage of our advances since 1917 has been quite low. Where unwarranted advances have been made in the price of passenger cars and trucks there will probably be reductions, but we have advised our distributers and dealers that we can see no possibility of any change in our prices between now and July, 1921.

NASH MOTORS CO.,
C. B. Voorhis, *Vice-Pres.*

Kenosha, Wis.

Getting Down to Pre-War Levels

To the Editor.—The opinion of different manufacturers being so diversified on the question of prices, it is a problem that is open for a lot of discussion. We, ourselves, feel we are in a declining market on every commodity and everything in the automotive field must decline with it, consequently we made a small reduction and believe we should make additional reductions just as soon as materials will warrant it. I do not believe the reduction in price is going to have a stimulating effect on business. If anything, it will possibly hold business back, consumer waiting for the next cut; but if, during the high prices, we are not selling anything and then cut prices and do not sell anything at the lower price, we can not lose very much. We are gradually getting down to pre-war levels where we belong.

FEDERAL MOTOR TRUCK CO.,
M. L. Pulcher, *Vice-Pres.*

Detroit, Mich.

No Excessive Truck Profits

To the Editor.—I can not see how motor truck manufacturers can reduce prices for the remainder of this year, at least without serious losses. Owing to the great difficulty of securing units up to within just a few weeks ago, all manufacturers carried heavy, unbalanced inventories, for which material they paid the top market prices. There has been a slight reduction in some units for the last quarter of this year, but this does not benefit the manufacturers, for the reason that, as stated before, they all had heavy stocks, and, due to the sudden falling off in the demand, I question whether any of them will consume what materials they have on hand during the balance of this year.

Profits in motor trucks have not been excessive, but undoubtedly the profits that have been made so far this year will be lost to the manufacturer during the rest of the year on account of his overhead expenses eating up his earned profits, because there is

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not enough business being done to-day to pay his overhead expense. For that reason we can not see our way clear to make any reduction, and are guaranteeing our dealers that we will not reduce prices before January 1.

The slow market confronting us at this time, in my opinion, is only temporary, but beginning with 1921 there will be a very heavy demand for motor trucks, and I look forward to that year being the largest year that the motor truck manufacturer will have had. The present situation is due largely to the fact that everybody is expecting a material lowering of prices from the peak, and undoubtedly there will be some adjustments between now and January 1, and when this is once settled buying will begin. The enormous crops now in the hands of the farmers mean prosperity, because the farmer is a consumer and having the money he will buy.

O. ARMLEDER CO.,
Otto Armleder, *Pres.*

Cincinnati, O.

Engine Prices Reduced

To the Editor.—Effective September 29 we made a reduction in price on all our standard 4-cylinder engines. We did this for the general benefit of the industry, as up to the present time we have had little or no concessions in prices from our sources of supply. Our policy has always been to adjust our prices on the basis of a fair manufacturing profit to ourselves and we will continue in the future to base our selling price on this same policy.

BUDA CO.,
L. M. Viles, *Pres.*

Harvey, Ill.

No Reduction for Six Months

To the Editor.—We do not contemplate making any change in the price of our Titan trucks for a period of at least six months. We have advanced our list price but 10 per cent. since 1917.

TITAN TRUCK CO.,
Jos. C. Millman, *Pres.*

Milwaukee, Wis.

Eliminating Unfit

To the Editor.—We do not anticipate reducing the price of our trucks; in fact, several of the models to which we are adding equipment will be raised in price. In order to satisfy our customers we are guaranteeing our present prices until April 1, 1921. It seems to us that there have been many firms in the business who have been kept going merely as a result of war activities and that there will be a general "clean-up," eliminating many of these concerns before things will get back to normal.

MANUFACTURER.

New York City, N. Y.

Freight Rates Affect Costs

To the Editor.—At the preesnt time our cost sheets do not indicate any reductions, with the exception of a few cases. On the other hand, freight increases run from 25 to 35 per cent., which will add considerable to the cost. There are many other branches which have as yet shown no signs of decreases, and, under present conditions, we do not see how we can manufacture any cheaper than we have been able to do in recent months. Our percentage of increases in prices since 1914 has been exceedingly small, and only covered legitimate increases in costs of both labor and material, consequently we are in no position to make any radical reductions. I think the industry as a whole has made only very moderate increases in prices. We are not planning to make any reductions at this time, and will be unable to do so until our costs are reduced, which may come in the future, although we see no evidence of it at this time.

FULLER & SONS MFG. CO.,
W. P. Fuller, *Secy.*

Kalamazoo, Mich.

Can't Consider Reduction Now

To the Editor.—Owing to the very slight increase in our price during the past three years it is not possible for us to form any plans or even consider a reduction in our prices at this time. We completed all our contracts last year, many of them at a loss, owing to the unexpected increase in labor, transportation and other items entering into manufacture. In fact, our prices to-day are only 10 per cent. higher than they were before the war, so that you will readily see that we will have to wait quite a while for other parts to come down to our level.

PIERCE GOVERNOR CO.,
M. M. McCullough, *Pres.*

Anderson, Ind.

Public Demands Lower Prices

To the Editor.—The policy of our company has always been to build a quality truck and to list it at the lowest price, consistent with good business judgment, depending upon a volume of business for a fair maximum of profit on invested capital. Owing to a substantial advance in materials and freight rates, many manufacturers advanced their list prices on or about July 1, 1920. Our theory at that time was that the temper of the buying public was such that advances were not advisable, and we absorbed such advances in our earnings. The present cost of materials and labor does not, from an economic point of view, justify reduction in prices. However, the present temper of the buying public demands lower prices, regardless of what sacrifices the manufacturers are obliged to make during this period of readjustment. Accepting with the spirit of co-operation this nation-wide demand, we have made the announced reduction.

SELDEN TRUCK CORP.,
George C. Gordon, *Pres.*

Rochester, N. Y.

Too Much Said About Prices

To the Editor.—We think that too much has been said about price reductions already. People are all too impatient for big reductions. The *Chicago Tribune* did more damage in this territory than anything else. If you will recall several weeks ago they came out with four inch type across the top of their front page two or three consecutive days, talking about how everything was coming down enormously. I have talked with a good many truck dealers who advise that those articles in the *Tribune* about price reductions have stifled business. People are all waiting now for the market to stabilize. Sometimes I think the country would be better off if the newspapers would suspend operations for about six months.

ROSS GEAR AND TOOL CO.,
Edward A. Ross, *Secy.*

Lafayette, Ind.

No Reason for Reductions

To the Editor.—Several weeks ago we sent to every dealer and distributer in our sales organization a letter in which we guaranteed that our prices, which have been effective since July 1, would not be changed until January 1, 1921. After that date, of course, we can not say what may happen, but until then our attitude is as above outlined. It is our feeling that there is no logical reason for reducing prices at this time, because in our own case we know that all materials that are now going into our trucks, and which will go into our trucks for several months to come, were purchased at peak prices.

During the past two years we have not increased our prices at a rate beyond that caused by the increased cost of manufacture. Our profits to-day, and for several months past, have been lower than they were two years ago. If we had increased our prices at an abnormal rate, we possibly could now decrease them, but as we did not, we would certainly lose money if our prices were decreased now, and we are not in business to do that.

As stated above, our increases have been very low and very fair. We feel that there are many companies, like ourselves, who, on account of minimum increases in price, can not without a severe loss decrease their prices now. Our feeling is that the temporary lull that has existed in the automotive industry is over and indicative signs are that business is on the upward trend and will soon resume a normal condition.

ATTERBURY MOTOR CAR CO.,
W. A. Clare, *Gen. Sales Mgr.*

Buffalo, N. Y.

Lull in Business Temporary

To the Editor.—We do not contemplate any changes in our prices downward for some considerable period. We have guaranteed our prices against decline until January 1. Our prices have only advanced something like 15 per cent. since 1917; and I feel quite sure that the public realizes that this advance is fully justified by the difference in cost of production. There have been products of various kinds which have advanced as much as 100 and 200 per cent. since pre-war times, and it is only natural that those prices should react.

In our opinion this present lull in business is only temporary. We feel that within the course of the next very few months business will be back in volume to where it was last spring, and then it will be a question of production instead of sales. If our opinion is not borne out and we find that costs do decrease, we shall certainly pass on to our customers any decrease in cost.

As we see it, we feel that our procedure is the safe and sane method of stabilizing business. We are not going to be in an embarrassing position, in the event business reacts and those who have reduced prices will be compelled to advance them. On the other hand, should there be any decrease in costs, our guarantee gives the purchaser the benefit of it.

SERVICE MOTOR TRUCK CO.,
Moie Cook, *Secy.*

Wabash, Ind.

Expects Smaller Profits

To the Editor.—We have adopted no definite policy regarding prices of our product, except that we intend to coöperate with our customers to every reasonable extent. There will be no fixed percentage of price reduction for our product. We do not expect to make the usual margin of profit for a while, although our prices have always been based on cost plus a moderate profit. Most of our customers have either held us up on deliveries entirely or cut their schedule to a large extent.

BROWN-LIPE-CHAPIN CO.,
H. W. Chapin, *Gen. Mgr.*

Syracuse, N. Y.

No Thought of Reduction

To the Editor.—We had determined the policy which we would pursue in connection with prices before the price reduction announcements came out in the public press, as shown by our advertisements. The announcements of reduced prices therefore have not changed us; in fact, whenever we have in previous years changed our price we have given notice whether up or down, and where a reduction has taken place, usually we have gone back and given those customers who had purchased within 30 days of the date of the reduced price the advantage of it. We have no thought in mind of a reduction in prospect at this time, as our business is proceeding along lines of the schedule of production and distribution as laid out by us.

AUTOCAR CO.,
H. M. Coale, *Sales Mgr.*

Ardmore, Pa.

This Is a Buyers' Market

To the Editor.—We are very careful that we do not get ourselves in a position where it proves that we have sold the market short and would be obliged to cover at a loss. It has been a seller's market for four or five years. Now, temporarily, it is a buyer's market. When business stabilizes itself it will be 50-50; that means that price adjustments upward and downward will have to be effected in accomplishing this.

PARTS MAKER.

Syracuse, N. Y.

Higher Prices May Come

To the Editor.—We do not believe that those automobile manufacturers who have made price reductions have done so from any fundamental basis of costs. Every one who has announced a reduction in price has, at the same time, announced a loss in profits. On the face of it, it seems that these reductions have been made either because excessive prices have been charged and it is pos-

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sible now to make a reduction and obtain the plaudits of the public for doing so, rather than be blamed by the public for profiteering in the past. The other reason would be to move material held up due to slackening in demand because the public has come to believe that lower prices are bound to come. From all accounts this "price stampede" is now about over. In other words, manufacturers who have not already announced a reduction in prices either intend to "stand pat" or, in some cases, actually to increase their prices. It would seem that the reduction in prices by several concerns has defeated the purpose of increasing demand by a reduction, because now the public is absolutely certain that lower prices will prevail and naturally it is going to wait for them. In short, it is my belief that the industry will have to suffer just so much longer.

As far as our own prices are concerned, I want to bring out one point in particular which applies to us as well as to all manufacturers whose principal material item lies in brass castings, or some other copper product. Copper today is priced too low, it being around 18 cents a pound. The actual cost of production of copper runs from 16 to 22 cents per pound. In the Michigan mines they have about 50 per cent. production today. Taking the country as a whole, it is running about two-thirds of normal. Demand at the present time is low, although some increases are coming in at this time. War stocks are, however, reported to be depleted and, when the present industrial slump is over, this demand will actually increase. It is a well-known fact that the production of copper can not be more than sufficient to supply the normal demand; therefore, with an increase in demand and, due to the present high production costs, we can only look forward to an increase in the price of copper. Five years ago the relation of brass castings cost to copper cost was considerably different from what it is to-day, this being due to the fact that labor is now at a much higher rate than it was at that time. In carbureter work we have mostly comparatively small castings with intricate moulding and coring requirements, which means that a large percentage of brass castings cost—about 40 per cent., in fact—is represented by the labor item. The weight per piece is low and the labor per piece is high. Therefore, while copper to-day is only about 3 cents higher than it was in 1913, the cost of brass castings, which run largely of copper (in our case 85 per cent.), is relatively much higher.

It seems that our only hope for cheaper manufacturing costs lies in labor. It is true that to-day labor is somewhat more efficient, although practically the same labor rates are being paid. If, on the resumption of industrial activities, we can re-hire our labor at a lower rate, and it will give us more production per unit of time, our manufacturing costs will decrease just so much. The final question is: Will labor costs and efficiency take a trend which will offset the higher price of copper which, as far as we can see, is bound to come If it does, our costs can be reduced; if it does not, we will have to be guided by the conditions.

Under the conditions prevailing, we certainly can not guarantee anything. We will have to govern ourselves in accordance with conditions as they arise and we, like everybody else, can only hope that these conditions will be for the better.

CARBURETER MAKER.

Detroit, Mich.

No Cause for Panic

To the Editor.—We, like all other manufacturers of parts and accessories, are affected by the general condition of the automotive industry, but may say that we are still in good shape, and running a considerable proportion of our manufacturing and clerical forces. A gratifying feature is the underlying confidence that is evidently felt by the automotive industry, because, as far as we are concerned, cancellations of orders have been a very small proportion of the hold-up, and we attribute this in considerable measure to the policy we have pursued with our customers.

We have always considered our customers' interests as greater than our own, and in spite of the continually rising costs of material and labor we have only increased prices to our customers somewhat less than 4 per cent. in two years, preferring to carry the increasing burden on our own shoulders. It might be inferred that our former profits in normal times were therefore too large, but that is not the case at all. Our predecessors had an average monthly output of under 9,000 magnetos, which we set ourselves to increase when our present corporation was formed, and the net result was that each month showed an increased total until we had at the beginning of the present depression attained an output of 42,000 magnetos monthly. That naturally reduced overhead per unit, and until a few months ago this lessened overhead per unit almost balanced the increased costs of material and labor, and we therefore felt that it would not be fair to our numerous customers to take advantage of the great demand and obtain from them higher prices.

Needless to say, we did not "hide our light under a bushel," but told our customers frankly that we would protect them against advanced prices as long as it was possible to do so, and we received many letters of appreciation of our attitude. Just about the time the present depression showed signs of taking place, the continued increases in materials and labor were forcing us to consider the absolute necessity of raising prices, as on our principal types the costs had very nearly closed up with the selling prices, but we hung on to see what the pending depression might mean, and of course we now recognize that this is no time to increase prices, even though the lessened production naturally means increased overhead and absorption of our small profit.

We also recognize that gratitude has been defined as "a sense of favors to come," and perhaps we should have been better off if we had raised prices of our units when the demand was great, because we were compelled to turn many desirable orders away on account of our absolute inability to give early delivery without affecting previous orders received. In that case, if we had clapped on a substantial premium, it would have been obtainable, and we could now have handed back part of that premium as a concession to present circumstances, and thereby derive some merit from those who are demanding reductions.

As we kept our selling prices very close to actual costs ever since we started in business, we have no margin whatever for reducing prices, and any such reduction would mean an actual loss to us. The majority of our customers, we are glad to say, have recognized and approved of our policy, and have signified their knowledge of our inability to reduce prices, and we have not the least doubt that we shall always have enough customers to keep our factory in as full production as the needs of the industry warrant.

We do not believe any good purpose is served by becoming panic-stricken, and we do not believe that the present conditions are going to continue for any length of time. The prosperity induced by high wages, and the feverish demand for everything that costs money to buy, have for the past two years produced a very unusual condition. The nation is suffering from acute indigestion produced by the long course of over-rich fare, and the nation as a whole is, therefore, compelled to take a considerable dose of castor oil, which in due course will leave the body politic in a healthier condition than formerly. I believe that money will loosen up, at the latest by the early spring, and we may even see at least a slight change for the better after the presidential election, which improvement should be increased at the opening of the New Year, and attain considerable impetus by March or April.

It is not conceivable that the nation-wide movement for good roads, and the necessity of aiding the railroads by power vehicles, is going to suffer a permanent set-back. Trucks, tractors and farm-engines are an absolute necessity to the growth of the nation, and necessities will always be in demand.

AMERICAN BOSCH MAGNETO CORP.,
A. H. D. Altree, *Vice-Pres.*

Springfield, Mass.

Expects Lower Parts Prices

To the Editor.—We revised our prices by recalling a price raise made on July 6, which, in effect, revised our prices to those established on March 25, and was a reduction of from $150 to $350 per model. In making this reduction we took into account the cost of our inventory, and the probabilities of the cost of material needed to January 1, 1921. It was our opinion that the parts manufacturers and material vendors would revise their prices downward to at least their second quarter of 1920 prices and subsequent action by various parts manufacturers has confirmed our opinion.

We are not guaranteeing prices for any period of time whatever, but we are on record with our distributers and dealers as firmly of the opinion that there will be no further reduction in the prices of Day-Elder models for the next six or eight months. This opinion is based on our belief that the parts manufacturers and raw material vendors either have or will reduce their prices to the prices effective during the second quarter of 1920, and will probably have to hold to those prices for at least the first six months of 1921. Our prices, naturally, are entirely governed by the prices we have to pay for parts and material.

In our opinion, a guarantee of price is a dangerous liability for a manufacturer to assume, because it places him in a position, when it would be possible in view of market conditions to revise his prices downward, of facing an unknown liability in the way of a rebate on all cars on his distributers' and dealers' floors and also those cars sold by distributers and dealers during the period of the guarantee. Facing such a liability as this, most any manufacturer, regardless of size, would hesitate to reduce his price until he has covered himself by a withdrawal of his guarantee, or until the time limit on the guarantee had expired.

Should our parts manufacturers and raw material vendors not be able to quote us prices at least equal to those we paid during the second quarter of 1920, we will have to increase our prices again on January 1, but we do not contemplate that this increase will be necessary. As I write this letter, the present market situation for motor trucks is anything but encouraging. Each section of the country has a crop problem, the financing and movement of which is a real one, and until this is solved, or solves itself, motor truck sales must remain at a minimum. Where there is not a crop problem, such as in New England, New York, New Jersey and Pennsylvania, the lessened demand for the manufactured products of the section of the country has lessened the demand for motor trucks.

The whole problem really resolves itself into a case of the buyers of all kinds of commodities all over the world ceasing to buy. Just as soon as that condition changes, and we all begin to buy again, just so soon will every industry, including the motor truck, get back to something like a normal basis. I think this will commence about the holidays. I believe the retail stores will enjoy a good holiday business, and this will encourage them to place delayed orders for spring delivery. I look for the entire country to get on a prosperous basis in the first few months of 1921, and I am very optimistic in my belief that the year 1921 will be the most prosperous year the motor truck industry has ever known. Just as soon as our one hundred five million-odd people commence to buy in a natural way, all kinds of business must be stimulated; to say nothing of the buying power of the foreign countries, who know and realize that our market is that in which they can purchase with the greatest degree of satisfaction.

DAY-ELDER MOTORS CORP.,
F. G. Elder, *Treas.*

Newark, N. J.

Views Future with Confidence

To the Editor.—On October 1 this company guaranteed its dealers against decline in price of Traffic trucks for a period of six months. The publicity given to the cut in price by several automobile manufacturers did incalculable injury to the industry. However, people must have automobiles and

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trucks; they are an economic necessity and in our opinion the business will, by the middle of November, begin to recover from its set-back. Perhaps the business will be better off for this lull; at any rate we are optimists because we know the pendulum always swings back. We expect to build and sell a good many more Traffics in 1921 than we produced this year, and our production this year will exceed twice that of 1919. We look to the future with confidence.

TRAFFIC MOTOR TRUCK CORP.,
Guy Wilson, *Pres.*

St. Louis, Mo.

Buyers Wait for Bargain Sales

To the Editor.—The Packard company does not contemplate reducing prices. On the contrary, we promptly communicated with all our distributers guaranteeing our prices to July 1, next. The demand has, of course, been curtailed in line with the general recession of business. It's harder to sell cars and trucks than it was, which is to be expected, as the demand for them (and trucks particularly) must vary with the general volume of business transacted; and also, people do not buy freely on a declining market. And if there is any reasonable hope or expectation of lower prices—bargain sales—people wait for them. But when they learn in time that there is no extravagant profit in the manufacture or distribution of trucks and are satisfied that they are being sold at as low a price as is consistent with quality, they will resume buying. Trucks have become an essential part of expanding industry and their growing use can not be stopped.

PACKARD MOTOR CAR CO.,
Alvan Macauley, *Pres.*

Detroit, Mich.

Prices Raised Only 16 Per Cent

To the Editor.—Notwithstanding the fact that the costs of labor and basic raw materials such as steel, coal, etc., as well as finished parts, have not declined and that manufacturers everywhere are carrying large inventories bought and paid for at prevailing high prices, with no opportunity in any case for securing any concessions on them and regardless also of the fact that truck selling prices were not advanced at all so long as truck makers were working up materials bought at lower prices even though current markets were much higher, the psychology of the public mind appears to demand price reductions irrespective of any surrounding conditions. As for ourselves, we have the satisfaction of knowing that we have always shared our advantages to the utmost with our customers, hence it is that our present list prices average only about 16 per cent. higher than they were two years ago. It should be borne in mind also that the increase named is figured on our list and would be correspondingly reduced as against actual costs by the amount of the discounts given distributers and dealers. In addition we have included in that very moderate advance the full equipment which we have been furnishing for over a year past, on all worm-driven models as against our former policy of selling a stripped chassis—a practice still generally adhered to.

However, we recognize that, while our distributers and dealers are fully aware that reductions made at this time are wholly inequitable for the manufacturer, the buying public is mainly interested in knowing if we are keeping in step with the general trend, and consequently, to relieve our distributers and dealers of as much sales resistance as possible and put them in the very best position to start business going again, we decided to accept our losses now and therefore authorized the reductions already announced.

GRAMM-BERNSTEIN MOTOR TRUCK CO.
A. E. Schafer, *Gen. Sales Mgr.*

Lima, O.

No Reduction Now

To the Editor.—A reduction in the price of International motor trucks is not contemplated at this time. Since July 1, 1917, prices on all models of International motor trucks have been increased only 16 2/3 per cent. We have recently issued a letter to our branches guaranteeing the price to May 1, 1921. The purchaser of an International motor truck will, therefore, receive the benefit of any price reduction, if a reduction should be made between now and that time.

INTERNATIONAL HARVESTER CO.,
C. E. Johnson.

Chicago, Ill.

Cleveland Truck Dealers' Body Wants Road-building Watched

While taking vigorous exception to placing the blame for damage to highways on motor trucks, and laying the blame instead to faulty road construction and inadequate maintenance, the Cleveland Commercial Car Dealers' Association has urged all those interested in good roads to lay aside differences of opinion and devote their efforts rather to coöperation along constructive lines that will provide betterment of road conditions. As an immediate measure of relief the association has called upon the Cleveland Automobile Club, the Cleveland Automobile Manufacturers' & Dealers' Association, and the Cleveland Chamber of Commerce to join it in hiring a competent good roads adviser.

In two public letters and a resolution the truck dealers propose that a concerted effort be made at once to take road building from county jurisdiction and place it in the hands of a centralized state highway department. One of the letters is addressed to the Cleveland Automobile Club, which through its secretary, Fred Caley, demanded strict enforcement of laws regarding the weight and speed of trucks. It is felt that Mr. Caley placed undue emphasis on the share that trucks have had in breaking up the roads.

In addition to the proposal for a centralized state highway department, the truck dealers' association proposes "that all arguments as to what kind of traffic breaks down the roads be stopped" and "that all persons and organizations having a vital interest in good roads demand and insist on the enforcement of the road laws."

In calling upon the other Cleveland organizations to coöperate in securing a roads adviser, the association states: "Until we can get some centralized authority to see that our roads are planned right and built according to specifications, we need an efficient and disinterested man to have a check on county road inspectors and careless road contractors. We need some one able to address meetings and get publicity in communities where improper roads are contemplated and before contracts are awarded. We should give this man one or two assistants, if necessary, for good roads affect every commercial organization in the city, and it is time we organize to correct conditions which we all recognize as intolerable."

As to the causes and conditions which have led up to the intolerable conditions of the roads in the Cleveland district, particularly the Cleveland-Akron roads, the resolution of the dealers points out that roads are being built to-day as they were ten years ago, with no provision being made for the increased vehicular traffic they are called upon to sustain. It also states "that we are repairing pavements yearly over wide stretches where the road is so inadequately constructed that great holes reappear before the repair gangs move out of sight." That trucks are not alone responsible for the poor condition of roads is emphasized by pointing out that roads "crumble and heave up," even in places where heavy-duty trucks are excluded.

By calling attention to the fact that truck transportation is nearly as big a factor in the costs of everything "we make, eat and wear" as railroad transportation, the dealers show that the subject of good roads is vital to every person. To do away with heavy-duty trucks, therefore, would boost the already high cost of living.

City Engineer Favors Trailers

Amendments to the traffic ordinance in Chicago have been drafted for submission to the city council with a view to preventing rapid destruction of the street pavements by excessively heavy traffic. The proposed changes were discussed at a recent meeting in the office of the city engineer, Mr. Combs, who is chairman of the special traffic commission charged with drafting the amendments. It is proposed to change the gross weight of vehicle and load from 40,000 pounds, as at present allowed, to 30,000 pounds, with a maximum weight of 1,000 pounds per inch of tire width, but it was agreed at the meeting that the combination of a truck and semi-trailer with load should be allowed a weight of 32,000 pounds, with a limit of 24,000 pounds on any one axle.

During the meeting the city engineer said he was very much in favor of the use of trailers and felt it was preferable to have loads spread over the six or eight wheels of a truck and trailer or semi-trailer rather than to have the weight concentrated on the four wheels of a truck carrying the load alone.

Will Urge Uniform Code

All the influence possessed by the National Safety Council is to be used to bring about adoption by states and cities of a uniform traffic law for regulation of highway transportation. The ninth annual convention of the council was held in Milwaukee in September, at which the Public Safety Section discussed this subject, taking as a basis for such a code the proposed uniform vehicle law prepared in Washington after two years study and deliberations of all interests directly concerned, such as highway officials, road-builders, automobile owners, motor car, truck and trailer manufacturers and dealers and accessory makers. The draft of the proposed traffic law has already met with widespread approval.

Road-Building in Kansas

Kansas State Highway Commission has approved highways aggregating 461 miles for federal aid. These highways represent a probable cost of $25,000,000. Contracts have been let for 162 miles, the cost of which aggregates $4,875,000. Counties are going ahead with their preliminary road work in anticipation of increased federal aid. There are now in file petitions for 1,315 miles of road, the estimated cost of which is in excess of $50,000,000, granting federal aid stopped when the total reached nearly $8,000,000, the amount allotted to Kansas. Prospects are for a record breaking year in road-building.

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California 'Buses Carry Tourists by the Thousand

300,000 LEAVE ONE' BUS DEPOT MONTHLY

From Bakersfield in south-central California through Los Angeles to San Diego, down near the Mexican border is a distance, as the aviator flies, of about 210 miles. Bisecting this north and south line and at about right angles to it is another straight line extending eastward, the route of the airman when he flies from Los Angeles to San Bernardino, 60 miles or so. In the interests of accuracy, it is well in defining those distances to bring in the aviator and his straight line. For by road, as the motorist goes, the distance from Bakersfield to San Diego is considerably more than 210 miles, and the stretch from Los Angeles eastward to San Bernardino is considerably more than 60 miles. And within the section whose limits are marked by the ends of those straight lines there is much more area than appears on the map. With its mountains and valleys, the region really has two kinds of square miles, horizontal and nearly perpendicular.

Every year tourists go to southern California by the hundreds and thousands. And when they get there they must be carried about. They need transportation and they get it. From Bakersfield to San Diego and from the mountains to the sea, the whole region is traveled by the motor 'buses of one great transportation concern, the Motor Transit Company. With Los Angeles as a base this company operates lines radiating in every direction. One of these goes north from Los Angeles over the Ridge Route to Bakersfield and Taft. Another travels through a section of the Orange Belt from Los Angeles to San Bernardino, where it connects with the mountain division of the system known as the Mountain Auto Line, which encircles the San Bernardino mountains, comprising in its scope the "Rim of the World" Drive, including 101 miles of travel along the rim of a vast mountain range. Yet another line links Los Angeles with San Diego, skirting the Pacific Coast along its route and bringing the traveler into intimate touch with much of the historic lore of the West. Two of the three lines running out of Los Angeles operate out of the Union Stage Depot, said to be the largest enterprise of its kind in the world. From this station approximately 300,000 passengers—patrons of the various lines leaving the depot—are carried monthly.

Throughout its system and on all four of its lines the Motor Transit Company has standardized on White 'buses. From Bakersfield and Taft on the north, to Los Angeles and thence eastward to San Bernardino and the Rim of the World, and southward to San Diego, the spacious 'buses of the company carry passengers by the hundreds and thousands. The volume of traffic is truly tremendous. One division, for instance, is carrying passengers this year at the rate of 200,000 a month. Three years ago the rate was 7,000 to 8,000 passengers a month. A comparison of the two figures gives an index to the development of motor 'bus transportation that has been brought about in the three years. The carrying of tourists in southern California is but one of the many similar transportation needs to which the motor 'bus lends itself so admirably. Here, again, the motor truck is the complement of the railroad, in that it rounds out the cycle of public service.

Paris 'Buses and Street-Cars

The contract under which the omnibus and street-car services run in Paris expires at the end of this year, and for eighteen months past the Municipal Council and the Conseil Général de la Seine have been deliberating on the conditions of exploitation in the future. At present there are 43 motor omnibus lines in Paris and 117 street-car lines, the great majority of these latter running between the interior of the city and the Department of the Seine. There are in all 2,540 cars. These lines are controlled by six companies having a total capital of $84,180,000. The exploitation of the public service is not generally remunerative and the motor omnibuses especially are running at a loss, despite the fact that the service is admirably organized and that the vehicles usually carry a full load. They are of the single-deck type. It is stated that a new form of omnibus will shortly be put into service capable of carrying a larger number of passengers, and this solution is evidently the only possible one at a time when motor fuel is so expensive and the shorter hours and higher wages have laid such heavy additional charges on the company. The municipal council is anxious to be relieved of its obligations.

The B. F. Goodrich Company has declared a dividend of $1.75 per share on its preferred stock, payable October 1 to stockholders of record September 21.

Daily Motor Truck Service from Chicago to Milwaukee

2 TO 36 HOURS FASTER THAN RAILWAYS

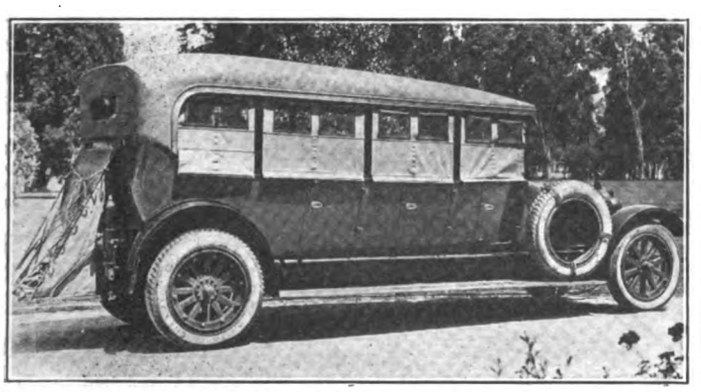
To secure maximum efficiency and minimum expense it is advisable to use medium sized trucks, not above 3½ tons, for long-distance hauling, according to President E. C. Stowell of the Arrow Motor Line which operates four trucks daily except Sunday between Milwaukee and Chicago.

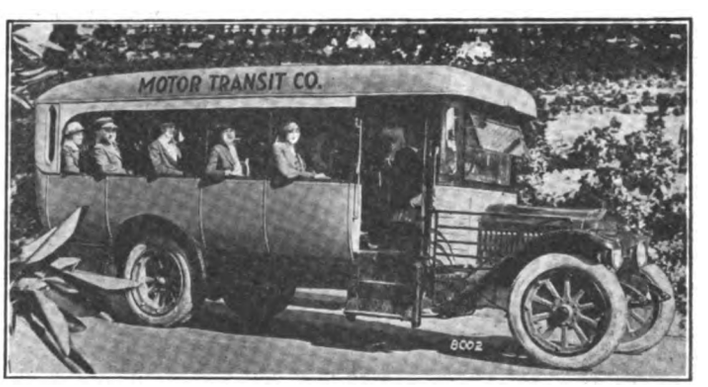
Mr. Stowell has conducted some experiments in this direction. Long-distance hauling between Chicago and suburban points has been rapidly increasing and there is daily service on regular schedules between the metropolis and cities 50 to 100 miles distant.

The longest haul, using as many as four trucks, is that between Chicago and Milwaukee, a distance of 87 miles. The roads between these points are uniformly good, except for a stretch of several miles through Zion City where a sandy soil prevents the usual speed. The 5- to 7-ton truck can get along in fine weather and with conditions agreeable, but in the winter months the larger types are the first to slow down, according to Mr. Stowell, and the service becomes slow and irregular. Patrons are soon lost, and when lost, it is difficult to regain them. Several companies, prior to the advent of the Arrow Line, attempted service between Chicago and Milwaukee, using the larger types of trucks. These foundered when the roads became heavy with mud or snow, while the lighter types worked their way through in much better time and in good condition.

The Arrow Line is an incorporated company, F. C. Stowell being president, secretary and treasurer, and his brother, C. A. Stowell, vice-president. Both have had extensive experience in long-distance hauling by truck.

The Chicago depot is at 425 North Dearborn Street. This is simply a small room serving as office and storage for freight. In nearly all cases the freight hauled is picked up at the establishment of the consignor, supplemented with what may be left at the depot of the Arrow Line, and is delivered to the establishment of the consignee at Milwaukee or some intermediate point. Similar offices and depots are maintained at Milwaukee, Waukegan,





Two types of motor buses employed in transporting tourists through the scenic beauties of southern California.

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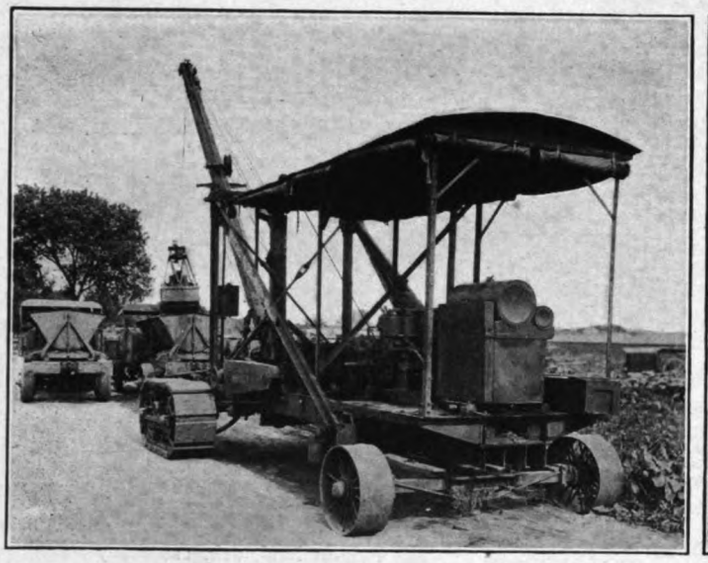


In its gigantic scheme for road maintenance and new construction Nebraska is making good use of army motor trucks.

Libertyville and Area. The three latter points are the local stations served.

The fleet is composed of three Stoughtons of 3½-ton capacity and two Grants of 2½-tons. The bulk of the tonnage is handled by the larger units. One truck departs at 10 a. m. daily, taking care of the local service to Waukegan, Libertyville and Area, while three depart at 6 p. m. daily for Milwaukee and intermediate points. It is planned to keep two trucks in exclusive service between Chicago and Milwaukee, while three touch at intermediate points. However, this schedule is varied as the exigencies of patrons' needs may make necessary. The run from Chicago to Milwaukee requires about 5 hours. The trucks are not unloaded until the following morning, when return loads are picked up, the return trip being made in the afternoon. Drivers are kept on duty about 7 hours per day. They are required to keep their machines in first-class condition, paying particular attention to lubrication, and are held responsible for all inspection and must see that their machines are given constant attention and are at all times in condition for hard service. Repairs are performed at a public garage. The Arrow Line does not maintain its own garage or service station. This will come later when the fleet is enlarged and the ramifications of the company are expanded.

Mr. Stowell is strongly in favor of pneumatic tires. He finds that they are 2 hours faster on the run between Chicago and Milwaukee, and would not consider solid tires for long runs. The company has been extremely fortunate in escaping serious trouble or loss of trucks in departures from their schedules. The machines go back and forth six days out of the week and seldom miss a trip.

The tariffs for hauling freight are somewhat varied. An effort is made to obtain 80 cents per 100 pounds between Chicago and Milwaukee and a proportionate charge for intermediate points. By the ton the average charge between those terminals is $12. Special prices are quoted for certain commodities and the tariffs of the steam lines are followed closely. An effort is made to secure as much revenue as the steam lines, but the saving for the consignor or consignee lies in the absence of delivery charges at each terminal, while there is much saving in time. The trucks save 12 to 36 hours over the steam lines, and shippers who wish quick deliveries find the motor line a great advantage over the steam lines and with no greater cost, but in most instances, a lesser.

Motor Crane Does Work of 30 Men

Manned by a crew of three the Mack motor crane, shown in the accompanying illustration, is capable of setting more telegraph or trolley poles than could be set by three gangs of men dependent on hand methods. Similar economies over manual operations are realized by using the motor crane equipped with a clamshell bucket for unloading bulk material from freight-car to pile or from car to truck. Also on excavating jobs, which are not of sufficient magnitude to warrant the moving of a large and cumbersome steam derrick, this portable crane proves its worth.

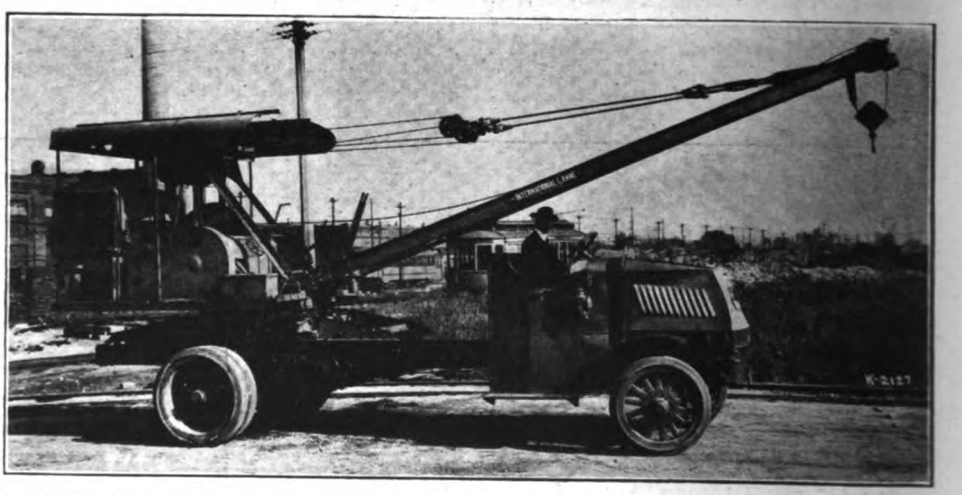
The crane itself follows the usual lines and is the product of the International Crane Company, of Cleveland. It is of the full-swing, self-contained type, rotating through 360 degrees, and is driven by a separate, 4-cylinder gasolene motor which is built with an extra large flywheel so as to run smoothly in spite of sudden application and release of loads. The capacity of the crane is 8,000 pounds.

The particular advantage of this crane unit is its ability to move rapidly from place to place. This makes it especially adaptable for operations which must be undertaken quickly or for work of short duration where more time would be spent in transporting the customary steam-driven or crawler type to the site than in doing the work after arrival.

Some of the special uses to which equipment of this type may be put are: Clearing streets of wreckage resulting from fire or collisions, handling trolley rails, and setting up heavy pieces of machinery. As the entire crane is demountable, the truck chassis may also be used for general transportation purposes.

Available Promotes Blaha.

William F. Blaha has recently been promoted to the position of acting sales manager of the Available Truck Company, Chicago. Prior to this promotion he was manager of the advertising and sales promotion departments, which he will continue to direct.



A 7½-ton Mack truck, equipped with a 4-ton International crane, used by the Cleveland Street Railway.

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HAVE you ever kept a record of the loss resulting in a year from breakage of merchandise carried on heavily loaded trucks?

The cushioning effects of 'MONO-TWIN' reduce this breakage to a minimum and safeguard the transportation of your goods.

'MONO-TWINS' not only reduce the liability of breakage to the load but also save your trucks from the wear and tear of heavy vibration. Their special design—alternate cross bars and depressions—gives added resiliency as well as greater traction to the tires.

U. S. Solid Truck Tires

United States Rubber Company

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Corn-Belt Farmers Rely on Motor Trucks

Study of 831 Farms Discloses Uniformly Satisfactory Results From Use of Motors

SUMMARIZING the experience of 831 corn-belt farmers who own motor trucks, the United States Department of Agriculture found that, in the opinion of nine-tenths of these men, the greatest advantage in owning a motor truck is "saving time"; in the opinions of three-fourths of them the greatest disadvantage is "poor roads," and 91 per cent. believe that their trucks will turn out to be a profitable investment. The reports, however, indicate that on most of these farms the truck has not reduced expense to any great extent, and that it supplements rather than replaces work-stock and other equipment.

On the average these trucks travel 2,777 miles per year, and the cost of operation is between 16½ cents and 17 cents per mile, making the total annual cost from $460 to $470. Each truck displaces an average of 1.2 head of work-stock. With the cost of keeping a horse a year in the corn-belt around $200, the reduction in expense for this item is in the neighborhood of $240 per farm. For all farms the average amount of hired help saved by the trucks is $163. On most farms these are the only two items of direct reduction in expense which can be credited to the truck, and on the average they amount to $60 or $70 less than the total cost of operating it.

To offset this added cost, custom hauling done with the trucks amounts to about $50 per year for all farms, leaving only something like $10 or $20 annual net expense which must be more than balanced by the saving of time of the owner and members of the family, the ability to get crops and live stock to market in better condition or at a better time, and other benefits which are not directly measurable in dollars and cents, if the average truck is to be a profitable investment. It must be remembered that most of these farms where trucks are owned are larger than the average, and are located at a considerable distance from market.

The investigation was made during the past winter and spring. Farmer truck owners in Indiana, Illinois, Missouri, Iowa, southern Wisconsin, southern Minnesota, southeastern South Dakota, eastern Nebraska, and eastern Kansas, who raise corn as one of their principal crops, and who practice the general grain and livestock farming characteristic of the corn-belt, reported to the department the use they make of their trucks, the cost of operating them, the advantages and disadvantages of trucks for farm use, and other related information.

A study of the reports of 831 of these farmers has just been completed by the Division of Rural Engineering of the Bureau of Public Roads and the Office of Farm Management and Farm Economics. Some of the important facts revealed by the investigation are:

The average size of the farms is 346 acres and the average distance from market is 8 miles. Only 14 per cent. of them are less than 5 miles from market, and 20 per cent. are 15 miles or more from market.

A little over one-fourth of these men have changed their markets, for at least a part of their produce, since purchasing trucks. For those who have changed market, the average distance to the old market was 7 miles, and to the new market 18 miles.

The rated capacity of these trucks varies from one-half to two tons. Seventy per cent. of them are rated at one ton, and only 9 per cent. of them at less than one ton.

Experience with trucks has caused 57 per cent. of these men to decide that the 1-ton size is best for their conditions, 25 per cent. that the 1½-ton size is best, and 12 per cent. that the 2-ton size is best. Practically one man in four has decided that a truck larger than the one he now owns would be better suited to his conditions.

Ninety-one per cent. believe that their trucks will prove to be a profitable investment. In the opinions of these men the principal advantage of a motor truck is in saving time, and the principal disadvantage is "poor roads." As compared with horses and wagons the trucks save about two-thirds of the time required for hauling to and from these farms.

ON the average there are over eight weeks during the year when the roads are in such condition on account of mud, snow, etc., that these trucks can not be used. The roads on which nearly 95 per cent of them usually travel are all or part dirt. The condition of the roads prevented the use of the trucks with pneumatic tires a little less than seven weeks during the year covered by the reports, and of those with solid tires a little over 9 weeks. Twenty-four per cent. of the trucks are equipped with pneumatic tires, 27 per cent. with solid tires, and 49 per cent. with pneumatics in front and solids in rear. However, experience has convinced 58 per cent. that pneumatics are best for their conditions, 35 per cent. that solids are best, and 7 per cent. that pneumatics in front and solids in the rear are best.

These men have return loads for their trucks about one-third of the time. A majority of them still use their horses for some hauling on the road. On more than half of the farms all the hauling in the fields and around the buildings is still done with horses and wagons. About 40 per cent. of these men did some custom hauling with their trucks during the year covered by the reports. The average amount received by those who did such work was $132.

Their owners estimate that on the average these trucks travel 2,777 miles and are used on 112 days per year. The average estimated life of these trucks is 6½ years and, on this basis, depreciation is usually the largest single item of expense in connection with their operation.

The average cost of operation, including depreciation, interest on investment, repairs, registration and license fees, fuel, oil and tires, is 15.2 cents per mile for the ½ and ¾-ton trucks, 15.2 for the 1-ton, 21.3 cents for the 1¼- and 1½-ton, and 25.8 cents for the 2-ton.

The average cost of hauling crops, including the value of the driver's time is 50 cents per hour, 24 cents per ton-mile with the ½- and ¾-ton trucks, 24.1 cents with the 1-ton, 23.3 cents with the 1¼- and 1½-ton, and 21.5 cents with the 2-ton trucks.

NEARLY 85 per cent. of these trucks had not been out of commission when needed for a single day during the year covered by the reports, and 80 per cent. of the owners stated that they had not lost any appreciable time on account of motor and tire trouble, breakage, etc., when using their trucks. About one truck in 15 was out of commission more than 5 days, however, and one owner in 40 reported a loss of more than 5 per cent. of the time when using his truck.

Fifty-six per cent. of these men have not reduced the number of their work-stock since purchasing trucks. Twenty-four per cent. have disposed of one or two head, and 20 per cent. of more than two head. The average reduction for all farms is 1.2 head.

Half of these men own tractors as well as motor trucks. Most of the tractors are owned on the larger farms, however. Only 33 per cent. of the men whose farms contain 160 crop acres or less own tractors, while 65 per cent. of those with over 320 crop acres own them. The number of work-stock kept on the farms where both trucks and tractors are owned is only slightly less than the number kept on the farms of corresponding size where only trucks are owned.

Seventy-eight per cent. of these farmers state that their trucks reduce the expense for hired help. On those farms where there is a reduction the operators estimate that it amounts to $209 per year on the average.

Helm Hare's Sales Manager

B. C. Helm, formerly special representative of Hare's Motors, with headquarters in Philadelphia, has been appointed general sales manager of the company. Mr. Helm joined the Packard Motor Car Company of New York in 1907 as a clerk in the accounting department. He was later made a salesman and was such a conspicuous success that he was made carriage sales manager for New York City. Later he was advanced to general passenger transportation manager. In the fall of 1919 he was appointed eastern district manager with headquarters at the factory in Detroit.

The Standard Motor Truck Company announces that N. D. Beaver has taken over the business of the Standard Motor Sales Company of Denver, Colorado, distributers of Standard trucks. Mr. Beaver will have the states of New Mexico, Nebraska, Wyoming and Colorado.

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Motor Haulage in Grain and Feed Trade

By CHARLES McARTHUR
Proprietor, Elgin Flour & Feed Company, Elgin, Illinois

OUR motor truck is operated on the same basis as any man working for me; that is, it must not only justify its cost but also make money for us. The truck has shown a distinct profit ever since we put it in operation, October 10, 1919.

We use this 1½-ton truck to haul flour and ground feed to the farmers around Elgin, and to haul in to our mill all kinds of grain, such as wheat, rye, barley and oats. We buy these raw products from the farmers, and sell them the milled products. Our prices do not include delivery. When a farmer buys feed from us, he has the option of hauling it home or having us deliver it at a fixed charge for the hauling. In like manner, when we buy grain it is with the understanding that the farmer will either deliver it to us, or pay us for the hauling. In addition to our farmer trade, we buy from and sell to a large number of feed and grocery stores in the smaller towns around Elgin. Conducting our business in this manner, we know exactly what our truck is doing, and have figures to prove that it is a money maker for us.

But here's the big point in our experience with the motor truck. Not only is it a certain money earner for us, but it has also proved itself a big business expander. With horses, or with the light delivery truck that we used for some time, we found not only that our business range was limited, but also that neither the horses nor the lighter truck could be depended upon at all times to do the hauling, because they were seriously affected by inclement weather and bad roads. In the eight months that we have been operating our 1½-ton truck, it has enabled us to double the volume of business of our flour and feed mills. I realize that that sounds like an overstatement, but our books show that we have actually increased our business two-fold with a total investment of $2,500 for the truck and a total operating expense of $11.05 per day. That shows what a reliable motor truck will accomplish for a company whose business requires prompt and dependable delivery service.

We charge our customers $1 for hauling 1 ton 5 miles. Figuring our operating cost on the national standard system, and using our records for the past eight months, we find that it costs us 28½ cents per mile, or $1.43 to haul 5 miles. If the truck is loaded to capacity, we get $1.50 for the delivery. This margin is so small that we find it good business practice to load the truck to 2 tons, paying us $2.00 for the trip. In order not to lose money on the round trip, we try to route the truck so that it can pick up a full load for the return. Such careful routing and despatching is necessary to make the income from the hauling cover the operating expense of the truck. We are satisfied if we do that, because we are in the flour and feed business, not in the trucking business, and the truck has more than justified itself by doubling our business.

Our truck has, we feel, a very low operating cost. When we purchased it, we estimated that 5 cents a mile each would cover depreciation, including maintenance and repairs, tire cost, and fuel and oil costs, or a total of approximately 15 cents per mile for operating costs. If we figure depreciation on a basis of 65,000 miles, which would give the truck six years to run at the present rate, we still have left $200 a year for maintenance and repairs. In eight months our only repair expense has been $20 for relining the brakes. Our original tires have covered over 7,500 miles. Judging from their appearance, I am sure that they will last over 10,000 miles, so that their cost will come within the 5 cents per mile originally estimated.

In good weather, such as we had during the latter part of May, it is easy for the truck to make a trip to Union, Marengo, and other towns along that route, covering 55 miles in 6 hours. This includes two or three stops to deliver and take on loads. On such trips the truck is loaded to capacity—at times slightly overloaded—so that it is making money for us every mile it travels. We have so much work that after its return from such a run the truck will make several deliveries to towns nearby or to stores in Elgin. It is always on the go, and often routed over roads that are in bad condition. To help it on bad roads, increase its speed, and lessen the wear and tear on it, we have equipped the truck with pneumatic tires all around with very satisfactory results.

The truck has also exceeded our expectations in gasolene and oil economy. Our original estimate was based on 25-cent gasolene; but even with 26-cent gasolene, fuel and cylinder oil have cost us not quite 3½ cents per mile. With the steadily rising prices of materials and labor, our truck operating costs must also rise. That means, of course, that we shall have to charge our customers more. But as they are satisfied that we can do hauling cheaper than they can, and as their hauling costs would also rise in proportion to ours, I am sure that we shall be able to keep our truck as busy in the future as it has been since we purchased it.

It would be extremely difficult to replace our truck with horses. Even two 2-horse teams could not do the same work. But suppose they could. Each team would cost us, with driver, $9 a day, or a total of $18. Our total daily expense for the truck is $11.05, making a saving of $2,100 a year by using the truck. This means that the truck saves us each year its original cost, if we exclude tires. These really are not part of the capital cost, but are included in the operating expense of the truck, and therefore covered by the $11.05 daily cost of operation. Horses have their place, and I am too much of a horseman myself to want to knock them. But they could not do as well or as cheaply the work our truck is doing.

Because of the way this truck has helped us build up our business, we have too much work for it now, and contemplate purchasing another truck of somewhat larger capacity.

Operating Costs on 1½-Ton Motor Truck in Flour and Feed Delivery Work.

AVERAGE COST.	
Cost per day (including driver)	$ 10.9566
Cost per mile	.2848
Total cost for period	2,143.71
OPERATION.	
Days operated	195
Miles traveled	7,535
Miles per day	38.64
Miles per gallon of gasolene	8.504
Miles per gallon of oil	154.54
ITEMIZED COST.	
Driver cost per day (included above)	$ 5.08
Depreciation per mile	.0308
Maintenance and repair, actual, total	20.00
Maintenance and repair, actual, per mile	.0027
Maintenance and repair, estimated, per mile	.0178
Tire cost, estimated, per mile	.0410

British Fuel Prices Raised

A heavy increase has been made in the price of gasolene in the United Kingdom, varying from 22 cents per gallon for the first quality to 14 cents for the cheaper grades and 16 cents on benzol. The new retail prices are:

	New Price.	Old Price.
Aviation	$1.17	$1.00
Best spirit	1.12	.90
Second grade	1.00	.86
Benzol	.98	.82

In 1896 the price of gasolene in England was 18 cents per gallon; in 1906 it was 32 cents; in 1916, 53 cents; in February, 1920, 90 cents. The underlying causes for these increases appear to be the unsettled conditions, political and economic, in certain oil-producing countries and the resultant diminution or cessation of output, the high cost of ocean transport, the increased use of oil for marine fuel, and the growth of motoring and aviation. Important oil fields owned or controlled by British interests are adversely affected by politico-economic conditions, and the available output of oil appears unequal to the demand. Gasolene substitutes are expected to play an important part in supplying fuel for motors until the potentially rich fields commence production and others become accessible.

First Chain Service Shop Opened

The National Chain Motor Service Corporation, recently organized to establish a chain of motor vehicle repair shops throughout the country, has opened its first shop in Charlestown. This station has a floor space of 24,000 square feet on two floors and is of modern brick and cement fireproof construction. The company offers and has put into effect a 24-hour service, which will be maintained by means of the following equipment: Battery of universal milling machines, 24-foot shaper, 20-foot 10-inch lathe, 14-foot 6-inch lathe, 30-foot radial drill, 20-foot upright drill, 16-foot sensitive drill, floor grinder, bench grinder, No. 2 arbor press, No. 3 arbor press, and a 22-ton press.

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500—2,000 (Nash) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	1,000 Pounds:																			
2	Belmont, A	1,150	G B & S-A	4	3¾x4½-22.5	S	Pierce	T	C, Modine	N	Zenith	G	B	Y	P, G B & S	S, 3	Grant-Lees, K	N	Sterling	2
4	Croce, 17	825	Wisconsin	4	3¼x5-16.9						Zenith	G	M, Bosch	Y	M, Brown-L	S, 3	Brown-Lipe			4
5	Dodge	1,085	Own	4	3¼x4½-24.2	FS		P	T		Stewart	G	B, Northeast		M	S, 3				5
6	Duryea, C	675			12.0	S	N				Kingston	G	M, Bosch							6
7	Seneca, M		Le Roi, C	4	3¼x4½-15.9	FS		T	C, Kunts	N	Schebler	G	BM, Bosch	Y	P, Borg & B	S, 3	Warner, B	N	Universal	7
8	Vim, 29	1,355	Own	4	3¼x4½-15.6	FS	N	T	T, McCord	N	Zenith	G	B	Y	P, Own	S, 3	Own	N	Spicer	8
	1,200 Pounds:																			
9	Champion	1,100	Herschell-Spil	4	3¼x5-19.6	S	N	T	C, Jamestown	N	Zenith	G	B	N	P, Borg & B	S, 3	Grant-Lees	N		9
	1,500 Pounds:																			
11	Commerce, T	1,350	Continental, N	4	3¾x5-22.5	FS	N	T		N	Zenith	G	M, Eisemann	Y	C	S, 3		N	Spicer	11
12	Conetsoga, 12	1,850	Continental, N	4	3¼x5-19.6	FS		T	C, Fedders	N	Stromberg	G	M, Simms	Y	M, Fuller	S, 3	Fuller, TU¼	N	Spicer	12
13	Dispatch, G	1,200	Wisconsin	4	3¾x5-22.5	F		T			Rayfield		M, Bosch			4				13
15	Elmira, C	500	Perkins	4	3¼x4-15.6		N	T	C, Bush		Zenith		Atwater-K		C, Own	S, 2	Own		Own	15
16	Geneva, 1		Beaver	2	5¼x5½-22.1		N				Schebler		M, Simms		P, Warner	P, 2				16
17	GMC, 16		Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	17
17a	H. R. L., L	2,400	Hers'l-Spill. 7000	4	3¼x5-19.6	F	N	T	T, Fedders		Zenith	G	M, Bosch		P, Own	S, 3	Covert		Spicer	17a
18	International, H	1,850	Own	4	3¾x5½-19.6	FS	Own	P	T, Long McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	18
19	Kearns, H	1,400	Hers'l-Spil 7000	4	3¼x5-19.6	FS	N	T	C, G & O	N	Zenith	G	B	Y	P, Borg & B	S, 3	Grant Lees, K	N	Peters	19
20	Kissel, General Delivery	2,175	Own	4	3¾x5½-24.0	S	Pierce	P	T, Sparks-W	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	20
20a	Marshall		Lycoming	4	3¼x5-16.9				C			G			Hartford	S, 3				20a
21	Old Hickory, M	995	Lycoming	4	3¼x5-16.9		N	T	C, Candler				Connecticut	Y	C, Lycoming	S, 3	Grant-Lees		Thermoid	21
22	Oldsmobile, Ecomony	1,500	Own	4	3 11/16x5½-21.7	FS	N	P	C, Own	N	Zenith	G	B	Y	C	S, 3	Warner	N	Spicer	22
23	Patriot, Revere	1,785	Continental	4	3¾x5-22.5	S	N	T	C, B & W	N	Stromberg	G	B	Y	P, Borg & B	S, 3	Covert, MA	N	Thermoid	23
24	Rainier, R11	2,150	Continental N	4	3¼x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	24
25	Shaw, M2	1,975	Continental, N3¾	4	3¾x5-22.5	FS		T	T		Zenith	G	M, Bosch		M, Brown-L	S, 3	Brown-L		Spicer	25
26	Stewart, 11	1,295	Le Roi, 2C	4	3¾x4½-15.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	Y	P, Borg & B	S, 3	Durston 02500B	N	Hartford	26
27	Texan	1,495	G B & S	4	4¼x—28.9	F		T			Carter		M, Delco		M, G B & S	S, 3	Grant-Lees			27
28	Triangle, AA	* 1,600	Herschell-Spil. 4	4	3¼x5-16.9	S	N	T	T, Perfex	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU¼	N	Detroit	28
29	Watson, 21		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, G & O	N	Johnson	G	B	Y	M, Brown-L	S, 3	Brown-L, 35	N	M & E	29
30	White, 15	2,600	Own	4	3¾x5½-22.5	FS	N	P	C	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	30
30a	Winther, Deliv'y Spec'l	1,795	Herschell-Spil	4	3¼x5-19.6	F		T	T		Stromberg	G	B	Y	M. Warner	S. 3	Warner	N	Peters	30a
	2,000 Pounds:																			
31	Acason, R	2,400	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N	Blood	31
32	Acme, B	2,175	Continental, N	4	3¾x5-22.5	FS	Duplex	T	C, G and O	N	Rayfield	G	M Eisemann	N	P, Borg & B	I, 3	Cotta, BUC	N	Blood	32
33	All-American	1,795	Herschell-Spil	4	3¼x5-19.6	FS	Pharo	T	C, Standard		Stromberg		M, Simms		M, Detlaff	I, 3	Cotta		Universal	33
34	Apex, C	1,745	Buda, RU	4	3¼x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	B Auto-Lite	N	M, Fuller	S, 3	Fuller, TU¾	N	Detroit	34
34a	Armleder, 20		Buda CTU	4	3¾x5½-22.5	F	N	P	T, Long	N	Zenith	G	M, Bosch	N	M. Fuller	S, 3	Fuller, LTU	N	Spicer	34a
35	Atco, IG10	1,875	Buda, WU	4	3¾x5½-22.5	F	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	Y	Hartford	35
35a	Atlas		Lycoming	4	3¾x5-19.6	S	N	T	C, Jamesto'n	N	Marvel	G	B	Y	P, Borg & B	S, 3	Own	N	Sterling	35a
35b	Avery		Own	6	3x4-21.6	FS		T	C	N	Stromberg	G	M, K-W	Y	M, Own	S, 3	Own	Y	Own	35b
36	Belmont, B	1,950	G B & S. AA	4	3¾x5-22.5	S	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	P, G B & S	S, 3	Grant-Lees, 515	N	Sterling	36
37	Bessemer, G	1,825	Continental, N	4	3¼x5-19.6	S	N	T	C, Ideal	N	Zenith	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¼	N	Arvac	37
37a	Bethlehem, K	1,695	Own	4	3¼x5-19.6	F	N	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Spicer	37a
37b	Birch	1,595	Victory	4	3¼x5-19.6	FS		T	T, Chicago		Stromberg	G	Connecticut		M, Fuller	S, 3	Fuller		Uni. Mch.	37b
38	Briscoe, T34	1,550	Own	4	3¾x5-18.2	F	N	T	T, Perfex	Y	Buick	G	Connecticut	Y	C, Own	S, 3	Own		Universal	38
38a	Chevrolet, T	1,325	Own	4	3 11/16x5½-21.7	FS	Monarch	P	Harrison		Zenith	G	Remy		C	S, 3	Warner		Arvac	38a
40	Chicago, C1	2,200	Hercules, CU2	4	3¾x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	40
41	Clydesdale, 32C	2,375	Own	4	3¾x5½-22.5	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	41
42	Collier, 18		Continental	4	3¼x5-19.6		Monarch	P	T, Long		Zenith		M, Eisemann		M	S, 3	Fuller			42
43	Columbia, F	1,850	Continental, N	4	3¾x5-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, B	N	Spicer	43
44	Commerce, E	1,855	Continental, N	4	3¼x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S	Detroit, C	N	Spicer	44
45	Conestoga, 20	2 100	Continental, N	4	3¼x5-19.6	FS		T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU¼	N	Sterling	45
46	Corbitt, E	2,200	Continental, N	4	3¾x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	46
48	Day-Elder, A	2,10	Continental, N	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	48
49	Denby, 12	2,400	Continental, N	4	3¾x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¼	N	Universal	49
50	Diehl, A	1,575	Continental, N	4	3¼x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Simms	N	P, Borg & B	S, 3	Durston, 02800		Hartford	50
51	Famous, B10	1,690	Continental	4	3¼x5-19.6		Monarch	T	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	51
52	Federal, SD	2,500	Continental, J-4	4	3¾x5-22.5	F	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Own	N	Peters	52
53	Ford, T	545	Own	4	3¾x4-22.5	FS	N	T	T, Own	N	Kingston	G	M, Own	N	M, Own	P, 2	Own	N	Own	53
54	Fulton			4	3¼x5-19.6			T						Y	P, Borg & B	3				54
55	Gabriel, C	2,000	Buda	4	4¼x5½-28.9		N	P	C, G & O		Rayfield		M, Bosch		P, Borg & B	S, 3	Brown-Lipe		Spicer	55
56	Gary, F	2,100	Buda, WU	4	3¾x5-22.5	F	Pierce	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Blood	56
57	Giant, 15	1,950	Continental, N	4	3¾x5-22.5	FS	N	T	C, Ideal	N	Schebler	GK	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	57
58	GMC, 16		Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	58
59	Hahn, C	1,375	Continental, N	4	3¼x5-19.6	FS		T	T, Chicago		Stromberg		M, Eisemann		M, Detroit	S, 3	Detroit			59
60	Hal-Fur, C	2,000	Buda	4	4x5-25.6		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	60
61	Higrade, A18	2,100	Continental, N	4	3¼x5-19.6	FS	Simplex		C, Perfex		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller			61
62	Hoover, 15B	1,435	Continental, N	4	3¼x5-19.6	FS		T	C, Candler		Schebler		M, Splitdorf		M, Fuller	S, 3	Fuller			62
63	Independent (Ohio), F	1,685	Continental	4	3¼x5-19.6		Monarch	T	T, National		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	63
64	International, F	2,050	Own	4	3¾x5½-19.6	FS	Own	P	T, Long McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	64
65	Jones, 31A	1,395	Continental, N	4	3¼x5-19.6	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Arvac	65
65a	Keystone, I	1,500	Own	4	3¼x4-18.2	S	Monarch	T	C, Own		Tillotson	G	Auto Lite		Own	S, 3	Own		Uni. Prod	65a
66	Kleiber, AA	2,600	Continental, C4	4	3¾x5½-22.5	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	66
67	Lone Star, 9		Victory	4	3¼x5-19.6	S		T	T, Chicago		Stromberg	G	Connecticut		M, Fuller	S, 3	Fuller		Thermoid	67
68	Menominee, Hurryton	2,080	Continental, N	4	3¾x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1	N	Spicer	68
69	Myers, 60	1,545	Lycoming	4	3¼x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	M, Mechanics	S, 3	Mechanics	N	Universal	69
70	Napoleon, 9	1,535	Victory	4	3¾x5½-19.6	F	N	T	T, Chicago	Y	Schebler	G	B	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	70
71	Nash, 2018	1,895	Own	4	3¾x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 3	Detroit, C	N	Own	71

* Without seat.

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TRUCK SPECIFICATIONS

500—2,000 (Nash)

Line no.	Hotchkiss drive? (Yes or No)	Number and location of driving-wheels (Front, Rear).	Service and emergency brakes (Contracting, Expanding).	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Leaves in front and rear springs.	Driver's position (Left, Right).	Turning-circle diameter (feet and inches).	Wheel-base (standard).	Weight of chassis (pounds).	Line no.
	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Differential (Bevel, Spur, Worm) and make.	Clearance under front and rear axles.	Frame material (Pressed-steel, Rolled-steel) and make.	Make of springs.	Length and width of front and rear springs.	Make of steering gear.	Wheels (Iron, Steel, Wood) and make.	Front and rear tire sizes (dual, pneumatic).	Perc. of weight on rear axle when empty & when loaded.	
2	B, Flint	Y	B	2, R	9½, 9½	C, E	P	½, ½	Mather	7, 8	36¾x1¼-50x2½	L	Lavine	36, 0	W, E & O.	113	31x4p-31x4p	2,200	45, 75	2
4	B, Timken			2, R		C, E	P								W	108	32x4-32x4			4
5	B			2, R					Detroit						W	114	33x4p-33x4p			5
6				2, R		E,	P	C, T							W	86	36x3½p-36x3½p			6
7	B, Peru, 3050		B	2, R	9½, 8½	E, C	P	½, C		6, 9	36x1¾-51x2	L	Ditweiler		W	108	30x3½p-30x3½p			7
8	W, Sheldon, W500	Y	W	2, R	11, 10½	E, E	P	½, ½	Shelden	8, 7	38x2-50x2	L	C.A.S.	30, 10	W, Hoopes	108	31x4p-31x4p	2,175	40, 70	8
9	B	Y	B	2, R	10, 10	C, E	P	½, ½		7, 8	36x2-50x2	L			W	114	32x4p-32x4p	1,900	50, 65	9
11	B	Y		2, R		C, E	P	½, ½	Detroit	8, 10	36x2¼-50x3	L	Jacox	26, 0	W	127	34x4½p-34x4½p			11
12	I, Torbensen, OX2	Y	B	2, R	9¾, 10½	C, E	P, Savage	½, ½	Iron City	7, 9	36x2-48x2¼	L	C.A.S.	44, 0	W, E & O.	124	32x4½p-32x4½p	2,800	50, 60	12
13	I			2, R				½, ½	Tuthill						W	120	34x4p-34x4p			13
15	B, Own			2, R		E, E	R, Own	½, ½	Tuthill			L	Own			104	28x3p-28x3p			15
16	C, Sheldon			2, R					Sheldon						W	96	34x2-36x2½			16
17	B, Own	N	B	2, R	10¾, 8¾	C, E	P, Smith	½, ½	Detroit	8, 11	38x2¼-54x2½	L	Jacox	46, W		132	35x5p-35x5p	2,940	50, 67	17
17a	W Wisconsin			2, R				½, ½	Sheldon				Ross		W, Schwarz.	134	34x4½p-35x5p	3,300		17a
18	I, Own		B	2, R	10½, 11¼	E, E	P	½, ½		8, 10	41x2¼-54x2½	L	Own		W	115	36x3-36x3½	2,900	50, 64	18
19	I, Torbensen, OX2L	Y	S	2, R	12, 13	E, C	P	½, ½	Mather	6, 9	36x2-50x2	L	Lavine		W, E & O.	118	32x4½p-32x4½p	2,200	65, 80	19
20	W, Own	Y	B	2, R	9¾, 10	E, E	P, Smith	½, ½	Mather	8, 10	36x2-50x2¼	L	Jacox	50, 0	W, Prudden	135	34x4½p-34x4½p	2,900	52, 68	20
20a				2, R												112	30x3½-30x3½			20a
21	B, Salisbury			2, R		C, E	R, Own	½, ½	Spring Perch			L	C.A.S.		W, Salisbury	112	33x4p-33x4p			21
22	I, Torbensen, OX2	Y	W	2, R	10¾, 12	C, E	P, Smith	½, ½	Perfection	7, 10	37x2-50x2½	L	Jacox	46, 0	W	128	35x5p-35x5p	2,580	55, 75	22
23	W, Empire, B	Y	B	2, R	13½, 12	E, E	P, Detroit	½, ½	Cooper	7, 12	38x2¼-50x2½	L	C.A.S.	43, 4	W, Bimel	128	35x5p-35x5p	2,800	42, 58	23
24	W, Timken 6352	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Perfection	8, 9	38x2-50x2½	L	Lavine		W, Schwarz.	125	34x4½p-34x4½p	2,400	75, 75	24
25	B, Timken			2, R				½, ½	Mather				Gemmer		W, Standard	116	32x4p-32x4p	2,400		25
26	I, Clark, AS	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	6, 9	37½x2-48¾x2¼	L	C.A.S.	42, 0	W, Wayne	110	32x4p-32x4p	2,190	53, 66⅔	26
27	B, Salisbury			2, R		E, E		½, ½							W	115	33x4p-33x4p			27
28	I, Clark, AS	Y	B	2, R		C, C	R, Mason	½, ½	Detroit	7, 10	42x2-54x2½	L	Gemmer		W, Hayes	115	35x5p-35x5p	2,600	60, 80	28
29	W, Empire, B	Y	B	2, R	10¾, 11	E, E	P, Parish	½, ½	Sheldon	8, 8	40x2¼-50x2½	L	Lavine		W, Hoopes	128	34x4½p-34x4½p			29
30	B, Own	N	B	2, R	9½, 9	C, E	P	½, ½				L	Own	50, 4	W	133½	34x4½p-34x4½p	2,960	54, 70	30
30a	I, Torbensen	Y	B	2, R		C, C	R	½, ½				L			W	135	34x4½p-35x5p			30a
31	W, Timken, 6352	Y	W	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	8, 12	39x2¼-52x2½	L	Ross		W, Bimel	142	36x3½-36x5	3,650	—, 73	31
32	W, Timken, 6352	Y	B	2, R	9, 9½	E, E	P	½, ½	Detroit	7, 11	38x2½-52x2½	L	Ross	54, 0	W, Bimel	130	34x3½-34x5	3,200	50, 70	32
33	I, Torbensen		W, Powrlok	2, R		C, E	P, Detroit	½, ½	Detroit	9, 13	38x2-54x2½	L	Lavine		W	130	32x4-32x4			33
34	I, Torbensen	Y	W, Powrlok	2, R	10½, 11½	C, E	R	½, ½	Detroit	8, 11	36x2-52½x2½	L	Lavine		W, Bimel	130	33x4p-32x3½	2,870	—, 66	34
34a	W, Timken	N	W	2, R		E, E	P, Smith	½, ½	Mather	8, 11	43x2½-63x2½	L	Ross		W, St. M'rys.	148	34x3½-34x5	3,950	—, 80	34a
35	I	Y		2, R				½, ½			40x2¼-50x2½	L	Ross		W	132	34x4½p-36x6p			35
35a	B	Y		2, R		C, E	P	½, ½		8, 10	36x2-46x2	L	C. A. S.		W	118	32x4p-32x4p			35a
35b	I, Torbensen	Y		2, R		C, E	P	T,	Mather			L	Ross		W, Own	129	34x5p-34x5p			35b
36	I, Clark	N	B	2, R	12, 12	C, E	R, Savage	½, ½	Mather	7, 11	40x2¼-52½x2¼	L	Lavine	44, 0	W, E & O.	144	34x4½p-36x5	3,200	50, 75	36
37	I, Torbensen, A	Y	B	2, R	11, 11¾	C, E	P	½, ½	Perfection	8, 10	39x2¼-52x2¼	L	Ross	54, 0	W, Schwarz.	124	34x3-34x4	2,910	47, 60	37
37a	I, Columbia	Y	B	2, R	10, 12	C, E	P, Detroit	½, ½	Mather	7, 9	36x2-50x2½	L	Ross	48, 0	W, Wayne	125	34x4½p-35x5p	2,715	—, 80	37a
37b	I, Clark			2, R									Lavine			132	32x3½-32x4	3,200		37b
38	I, Russel	Y	B	2, R	9½, 9½	C, E	P, Parish	½, ½	Alloy	7, 11	38x2½-52x2½	L	Lavine	45, 0	W, Hayes	121	33x4-34x3½	2,958		38
38a	W			2, R									Warner			125	33x4p-35x5p			38a
40	W, Timken, 6460	Y	B	2, R	10½, 11	E, E	R, Own	¼, ½	Mather	8, 9	40x2¼-54x3	L	Gemmer		W, Standard	132	36x3-36x4	3,800	60, 75	40
41	W, Timken	N	B	2, R	11, 10	E, E	P, Parish & B.	½, ½	Perfection	9, 7	36x2½-50x3	L	Ross	52, 0	W, Bimel	144	34x3½-34x5	3,450	51, 62	41
42	W			2, R		E, E	P						Ross			140	34x4-34x5			42
43	I, Russel, PI300	Y	B	2, R		C, E	R, Own	½, ½	Perfection	8, 10	38x2¼-48x3	L	Own		W, St. Mary	120	34x3½-34x4	3,300		43
44	I, Torbensen, A	Y	B	2, R	10, 11½	C, E	P, Detroit	½, ½	Detroit	8, 10	36x2¼-50x3	L	Jacox	46, 0	W, Bimel	126	34x3½-34x4	2,900		44
45	W, Wis., 800D	Y	W	2, R	10½, 9	E, E	R, Own	½, ½	Iron City	8, 10	36x2½-48x2½	L	Ross	50, 0	W, E & O.	128	34x3½-34x5	3,400	50, 65	45
46	W. Sheldon	Y	W	2, R		E, E	R, Own	½, ½	Mather	8, 10	38x2½-50x2½	L	Ross		W, Bimel	130	34x3½-34x4		70, 70	46
48	W, Sheldon, W1500	Y	B	2, R	10, 9¾	E, E	P, Savage	½, ½	Iron City	8, 12	40x2¼-54x2½	L	Gemmer	46, 6	W, Jones	128	34x3½-34x4	3,250	50, 70	48
49	I, Russel, P	Y	S	2, R	14, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	43½x2¼-48x2½	L	Ross	54, 0	W, Hayes	124	35x5p-36x6p	3,220	51, 73	49
50	I, Torbensen, OX2L	Y	W	2, R	10, 12	C, C		½, ½	Rowland	8, 12	34½x2½-48x2½	L	Jacox	18, 0	W, Schwarz.	115	34x4½p-35x5p	2,400	—, 90	50
51	I, Clark			2, R		C, C	P, Savage	½, ½	Sheldon			L	Ross		W, Bimel	120	36x3½-36x4			51
52	W, Timken, 6352	N	B	2, R	13, 12	E, E	P, Detroit	½, ½	Mather	7, 8	40x2¼-52x2½	L	Gemmer	51, 9	S, Detroit	132	35x5p-36x6p	3,600	55, 70	52
53	W, Own	N	W	2, R	10¾, 8½	C, E	P, Parish & B.	½t, ½t	Own	7, 9	31⅝x1½-16½x3	L	Own	46, 0	W	124	30x3p-32x3½	1,465		53
54	I			2, R		C, C	P								W					54
55	W, Timken			2, R		E, E	P, Parish	½, ½	Merrill			L	Gemmer		W, Standard	136	35x5p-35x5p			55
56	W, Timken, 6352	Y	W	2, R	12½, 11½	E, E	P	½, ½	Tuthill	8, 11	40x2¼-52x2½	L	Ross	42, 0	W, Prudden	130	36x3½-36x4	3,200	50, 20	56
57	W, Sheldon, W1500	Y	B	2, R	13, 9¾	E, E	P, Hydraulic	½, ½	Mather	6, 9	38x2-48x2½	R	Jacox		W, Wayne	130	34x3½-34x5	2,950	50, 68	57
58	B, Own	N	B	2, R	10¾, 8¾	E, E	P	½, ½	Detroit	8, 11	38x2¼-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940	50, 67	58
59	I, Torbensen			2, R			P, Parish	½, ½	Delaney				Lavine		W	127	34x3-34x4			59
60	W, Timken			2, R		E, E	P, Parish & B.	½, ½	Spring Perch			L	Gemmer		W, Standard	136	35x5p-35x5p			60
61	W, Sheldon			2, R		E, E	P, Own	½, ½	Perfection				Lavine		W, Prudden	115	35x5-35x5			61
62	W, Sheldon			2, R		E, E	P, Detroit	½, ½	Sheldon				Lavine		W	120	32x4-33x4½			62
63	W, Chicago			2, R		E, E	P, Parish & B.	½, ½	Iron City			L	Ross		W, Wayne	128	34x3½-34x4			63
64	I, Own		B	2, R	10½, 11½	E, E	P	½, ½		10, 12	40¾x2½-54x2½	L	Own		W	128	36x3½-36x4	3,000	50, 64	64
65	I, Russel, O	N	S	2, R	11½, 11½	C, E	P, Hydraulic	½, ½	Champion	9, 11	37x2¼-51½x2½	L	C.A.S.	40, 0	W, Prudden	130	34x3½-34x4	3,400	20, 80	65
65a	I, Torbensen			2, R				½, ½	Rowland				Own		W, Hoopes	122	31x4p-33x5p	2,040		65a
66	W, Timken, 6460	Y	W	2, R	9, 9	E, E	R	½, ½	Betts	7, 11	44x2¼-52x3	R	Ross		W, W't'rh'se	130	34x3½-34x5	4,300	50, 75	66
67	I, Kenosha			2, R									Lavine			134	34x4½p-34x4	3,200		67
68	W, Timken, 6460	N	B	2, R		E, E	R	½, ½	Tuthill	9, 12	39x2¼-50x2½	L	Ross		W, Standard	130	34x3½-34x4	3,600		68
69	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B.	½, ½	Cleveland	7, 8	36x2-50x3	L	C.A.S.		W, E & O.	130	34x2½-34x4	2,850	50, 75	69
70	I, Clark, AS	Y	B	2, R	14, 14	C, C	R, Own	½, ½	Mather	8, 10	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-35x5p	3,200	50, 65	70
71	I, Clark, 1	Y	W	2, R	9½, 9½	C, C	P, Own	½, ½	Alloy	10, 12	37⅞x2½-52x2½	L	Jacox	47, 0	W, Auto	130	34x3-34x4	3,400	44, 67½	71

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2,000 (National)—3,000 (International) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	2,000 Pds.—Con.																			
72	National, FA		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C,McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	72
73	Noble, A20		Buda	4	3¾x5½-22.5		Pierce	P	T, Chicago	Y	Stromberg	Y	M, Eisemann		M, Fuller	S, 3	Fuller		M & E.	73
74	Ogden, A1	2,295	Continental, N	4	3¾x5-22.5	S	Pierce	P	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Acme	74
75	Palmer	1,585	Continental, N	4	3¾x5-22.5	FS	Pierce	P	C, Fedders		Stromberg		M, Bosch		M, Fuller	S, 3	Fuller			75
75a	Pioneer, AA	1,550	G. B. & S	4	3¾x4¼-22.5	F		T	C, Chicago		Zenith	G	M, Dixie		M, Detroit	S, 3	Grant-Lees		Thermoid	75a
76	Rainier, R9	2,350	Continental, N	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	76
77	Republic, 10	1,655	Continental, N	4	3¾x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	77
78	Royal	2,400	Wisconsin	4	3¾x5-16.9		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			78
79	Sandow, G	2,195	Continental, N	4	3¾x5-19.5	S	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	79
80	Service, 220	2,415	Buda, RU	4	3¾x5½-19.6	FS	N	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Arvac	80
80a	Shaw, M4	2,300	Continental, N3¾	4	3¾x5-22.5	FS		T	C		Zenith	G	M, Bosch		M, Brown-L	S, 3	Brown-L		Spicer	80a
81	Signal, NF	2,750	Continental, J4	4	3¾x5-22.5	FS	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	81
82	Southern, 10	2,000	Buda, RU	4	3¾x5½-19.6	FS	Pierce	T	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 4	Fuller	N	Spicer	82
83	Standard, 56	2,250	Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	83
84	Stewart, 12	1,650	Continental, N	4	3¾x5-19.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Durston, 02800	N	Hartford	84
85	Superior, D	1,800	Continental, N	4	3¾x5-22.5	F	Pierce	T	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	Y	Arvac	85
86	Transport 20	1,850	Buda, WU	4	3¾x5½-22.5	FS	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S	Fuller, TU¾	N	Thermoid	86
87	Traylor, B	2,075	Buda, WU	4	3¾x5½-22.5	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N		87
88	Vim, 31	2,475	Hercules	4	3¾x5½-22.5	F	N	P	T, McCord	N	Zenith	G	M, Dixie	Y	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	88
88a	White Hickory, F	2,450	Continental, N	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	M & E.	88a
88b	Wichita, K	2,300	Own	4	3¾x5-19.6	S	N	T	C, Perfex	Y	Stromberg	G	M	N	C	I, 4		N	Thermoid	88b
89	Wilcox, A		Buda, QU	4	3¾x5½-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N		89
90	Witt-Will, N	2,150	Continental	4	3¾x5-22.5		Pierce	P	C, Bremer		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	90
	2,500 Pounds:																			
91	Garford, 25	2,090		4	3¾x5½-22.5	S	Monarch	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M	S, 3		N		91
92	Hahn, C	1,950	Continental C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-L			92
93	Indiana, 12	2,290	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, G1	N	Acme	93
94	Koehler, C	1,985	Hers'l-Spil. 7000	4	3¾x5-19.6	F	Simplex	T	C, Gordon	Y	Zenith	G	M, Eisemann	N	P, Mechanics	S, 3	Mechanics, LU	N	Kinzler-B	94
95	Old Hickory, W	2,175	Continental, N	4	3¾x5-22.5	FS	Pierce	T	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Blood	95
96	Oneida, A9	2,350		4	3¾x5½-22.5	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3		N	Peters	96
96a	Reo, F	† 1,385	Own	4	4¼x4½-27.2	FS	N	P	T, Own	N	Johnson	G	B	Y	M, Own	S, 3	Own	N	Own	96a
	3,000 Pounds:																			
97	Acason, RB	2,650	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	97
98	Ace, C	2,750	Buda, WU	4	3¾x5½-22.5	F	Pierce	P	C, Modine	Y	Schebler	G	B, Westingh'e	Y	M, Fuller	S, 3	Fuller	N	M & E.	98
99	Acme, F	2,475	Continental, J4	4	3¾x5-22.5	F	Duplex	P	T, G & O	N	Zenith	G	M, Eisemann	N	P, Borg & B	I, 3	Cotta, AAU	N	Blood	99
99a	Aetna	2,775	Wisc., CAU	4	3¾x5½-22.5	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, A	N	Spicer	99a
99b	All-American	2,195	Herschell-Spill'n	4	3¾x5-19.6	FS		T			Stromberg		M, Simms		M	I, 4	Cotta			99b
100	Apex, D	1,915	Buda, RU	4	3¾x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	Auto-Lite	N	M, Fuller	I, 4	Fuller, TU¾	N	Detroit	100
100a	Atterbury, 20R	2,775	Continental, J4	4	3¾x5-22.5	S	Monarch	P	T, Own		Zenith	G	M, Berling		M, Brown-L	S, 4	Brown-L		Spicer	100a
100b	Available, H1½	2,750	Hercules, CU3	4	4x5½-25.6	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	I, 4	Cotta, A	N	M & E.	100b
101	Beck, A	1,950	Continental	4	3¾x5-22.5	S	Pierce	T	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	Y	Blood	101
102	Bell	2,200	Buda, CTU	4	3¾x5½-22.5	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit, DX	Y	Universal	102
103	Bessemer, H2	2,445	Continental, N	4	3¾x5-22.5	S	Pierce	T	C, Standard	N	Zenith	G	M, Bosch	N	P, Borg & B	S, 3	Brown-L, 35	N	Arvac	103
104	Bridgeport, A	2,350	Buda, WU	4	3¾x5½-22.5		Pierce	T	T		Stromberg	G	M, Eisemann		P, Borg & B	I, 3	Cotta		Hartford	104
105	Brockway, 82	2,250	Continental, N	4	3¾x5-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	105
105a	Capitol, G1½	2,750	Wisconsin	4	3¾x5-22.5	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	Y	M, Detlaff	I, 4	Cotta, AU	N	Thermoid	105a
106	Chicago, C1½	2,450	Hercules, CU2	4	3¾x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	106
106a	Climber, A2	2,650	Hers'l-Spill. 7000	4	3¾x5-19.6	FS		T	T		Stromberg	G	Atwater-K		M					106a
107	Clydesdale, 42C	2,750	Own	4	4x5½-25.6	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	107
108	Collier, 19		Continental	4	3¾x5-22.5		Monarch	P			Zenith		M, Eisemann		M, Fuller	S, 3	Fuller			108
109	Comet, 1-T-2	1,950	Lycoming	4	3¾x5-19.6	S	N	T	C, Standard	Y	Carter	G	B, Dyneto	Y	P, Borg & B	S, 3	Muncie, T25	Y	Arvac	109
110	Commerce, EP	2,255	Continental, N	4	3¾x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	110
111	Concord, A	2,350	Buda	4	3¾x5½-22.5		Monarch	P	T, Bush		Zenith		M, Eisemann		M, Brown-L	S, 3	Brown-Lipe		Spicer	111
112	Corbitt, D	2,600	Continental, N	4	3¾x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	112
113	Dart, S	2,250	Buda, WU	4	3¾x5½-22.5	F	Pierce	T	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	Y	Spicer	113
114	Day-Elder, B	2,300	Continental, N	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	114
115	Dearborn, F	2,180	Continental, N	4	3¾x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	115
116	Defiance, D	2,550	Own	4	3¾x5-22.5		N	P	C, Perfex		Stromberg			Y	P, Borg & B	S, 3	Grant-Lees			116
117	Dependable, C	2,350	Buda, CTU	4	3¾x5½-22.5	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 3	Fuller, LTU	N	Acme	117
118	Diamond T, T *	2,450	Hinkley	4	3¾x5½-22.5	F	Unit Mot	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 3	Covert	N	Sn'd & Sp	118
118a	Douglas, G	2,200	Weidely	4	3¾x5½-22.5	F		T	T, Own		Schebler		M, Eisemann		P, Borg & B	S, 3	Grant-Lees		Arvac	118a
119	Duplex, A	2,775	Hinkley, HAA	4	4x5½-25.6	FS	N	P	T, Modine	N	Stromberg	G	B	Y	M, Covert	S, 3	Covert, MUC	Y	Peters	119
120	Erie			4	4¼x5½-27.2		Pierce	T			Stromberg		M, Bosch		M	4				120
121	Fageol	3,500	Lycoming, K	4	3¾x5-19.6	S	N	T	C, Modine	N	Zenith	DG	M, Dixie	N	P, Borg & B	S, 5	Own	Y	Detroit	121
121a	Famous, B12	2,295	Continental, N3¾	4	3¾x5-22.5	S	Monarch	P	T, Chicago		Stromberg	G	M, Eisemann		M, Fuller	S, 3	Fuller		Bearings	121a
122	Federal, TE	2,725	Continental, C4	4	4¼x5½-27.2	S	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit	N	Spicer	122
123	Forschler, AX	2,375	Continental	4	3¾x5-19.6		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 3	Fuller		Own	123
123a	Front Drive, C	2,800	Buda, CTU	4	3¾x5½-22.5	S	Pierce	P	T, E. & M		Zenith	G	M, Louraine		P, Borg & B	S, 3	Own		Own	123a
124	Gary, GT	2,550	Buda, TU	4	4x5½-25.6	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Blood	124
124a	Gersix, M	3,100	Buda, TU	4	4x5½-25.6	F	Monarch	P	C, Ideal	N	Stromberg	G	M, Bosch	N	P, Borg & B	I, 3	Cotta, BUA	N	Blood	124a
125	Giant, 15	2,425	Continental, N	4	3¾x5-22.5	FS	N	T	C, Ideal	N	Schebler	G,K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	125
126	GMC, 31A		Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	126
127	Graham Brothers	2,495	Continental, N	4	3¾x5-22.5	FS	Monarch	T	T, Long	N	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller	N	Hartford	127
128	Gramm-B'nst'n, 15 (int.)	2,050	Continental, N	4	3¾x5-22.5	FS	N	T	T, Own	N	Stromberg	G	B, Northeast	N	M, Fuller	S, 3	Fuller	N	Own	128
129	Gramm-B'nst'n, 65 (w'm)	2,725	Continental, N	4	3¾x5-22.5	FS	N	T	T, Own	Y	Stromberg	G	B, Northeast	N	M, Fuller	I, 3	Own	N	Own	129
130	Grant, 17	2,675	Continental, N	4	3¾x5-22.5	FS	Pierce	T	C, Fedders	N		G	M, Splitdorf	Y	M, Brown-L	S, 4	Brown-L, 35	N		130
131	G. W. W	2,100	Weidely	4	3¼x5½-22.5	F		P	T, Chicago		Schebler	G	Delco		M, Fuller	S, 3	Fuller		Acme	131
132	Harvey, WEA	2,550	Buda	4	4¼x5½-27.2		Monarch	P	T, Chicago		Zenith		M, Bosch		M, Fuller	S, 3	Fuller		Arvac	132
133	Hawkeye, K	2,365	Buda	4	3¾x5½-22.5		Simplex	P	T, Ideal		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Hartford	133
133a	Higrade, B20	2,500	Continental, J4	4	4¼x5½-27.2	FS		P	T, Perfex		Zenith	G	M, Eisemann		M, Fuller	S, 3	Fuller		Blood	133a
133b	Hoover, 20A		Continental, N	4	3¾x5-19.6	F	Pierce	P	Candler		Schebler	G	M, Dixie		M, Fuller	S, 3	Fuller		Arvac	133b
133c	H. R. L., R	3,250	Hinkley	4	4x5½-25.6	F	Hinkley	P	C, Fedders		Zenith	G	M, Bosch		M, Brown-L	S, 4	Brown-L		Spicer	133c
134	Huffman, C (int.)	1,695	Continental	4	3¾x5-22.5	F		T	C		Zenith		M, Dixie		M, Fuller	S, 3	Fuller			134
135	Huffman, B (worm)	1,895	Continental	4	3¾x5-22.5	F		T	C		Zenith		B, Northeast		M, Fuller	S, 3	Fuller			135
136	Hurlburt, A	2,850	Buda, IU	4	4x5½-25.6	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe			136
137	Independent (Iowa)	2,040	Continental, N	4	3¾x5-22.5	FS			T, Chicago		Stromberg		M, Bosch		M, Fuller	S, 3	Fuller			137
139	International, K	2,400	Own	4	3¾x5½-19.6	FS	Own	P	T, Long,McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	139

* Model FS has same specifications, but includes cab and farm body, and is priced at $2,715. † Without seat.

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TRUCK SPECIFICATIONS

2,000 (National)—3,000 (International)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
72	W, Timken, 6352..	Y	W	2, R	10½, 10½	E, E	P.....	½, ½	Coghlin....	8, 10	40x2½-52x2½...	L	Ross.....	34, 0	W, Hayes..	136	34x3½-34x3½.....	3,350	.....	72
73	W, Sheldon.....	....	.....	2, R	.....	E, E	P, Slick-Knox.	½, ½	SpringPerch	.....	.....	L	Lavine...	.....	W, Bimel...	144	36x3½-36x4.....	3,920	.....	73
74	W, Timken, 6460..	Y	S	2, R	10 , 10	E, E	P, Garden City.	C, C	Tuthill....	8, 10	38x2½-50x2½...	L	Gemmer..	.....	W, Standard	136	36x3½-36x4.....	3,400	—, 70	74
75	I, Torbensen.....	....	.....	2, R	.....	.....	P, Parish & B.	....	Champion..	.....	.....	....	Ross.....	.....	W.....	132	34x3½x34x4.....	.....	.....	75
75a	W	....	.....	2, R	.....	.....	.....	½, ½	Garden City	.....	.....	....	Ditweiler	.....	W, St. M'rys.	130	32x4½p-32x4½p....	2,300	.....	75a
76	W, Sheldon, W1500	Y	B	2, R	9½, 10	E, E	P, Parish.....	½, ½	Perfection..	8, 13	38x2-50x2½...	L	Lavine...	.....	W, Schwarz.	125	32x3½-32x4.....	2,750	75, 75	76
77	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Detroit.....	½, ½	Mather....	7, 11	39x2½-52½x2½..	L	Jacox....	.....	W.....	124	34x3-34x4.....	2,925	.....	77
78	W, Timken.....	....	.....	2, R	.....	E, E	R, Own.....	....	Merrill....	.....	.....	....	Ross.....	.....	W.....	128	34x4-34x5.....	.....	.....	78
79	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage.....	½, ½	Garden City	7, 10	36x2½-52x2½...	L	Ross.....	48, 0	W, Standard	120	34x3½-34x5.....	3,300	20, 70	79
80	W, Timken, 6456..	Y	B	2, R	9½, 9	E, E	P.....	½, ½	Mather....	8, 9	40x2½-50x2½...	L	Ross.....	42, 0	W, Bimel...	137	34x3½-34x5.....	3,470	—, 70	80
80a	W	....	.....	2, R	.....	.....	.....	½, ½	Mather....	.....	.....	....	Gemmer..	.....	.....	130	35x5p-35x5p.....	2,575	.....	80a
81	W, Timken, 6352..	N	B	2, R	11 , 11	E, E	P, Savage.....	½, ½	Detroit....	10, 11	38x2½-52x2½...	L	Ross.....	53, 0	W, Hayes..	132	34x5p-36x6p.....	4,395	—, 70	81
82	W, Sheldon.....	Y	W	2, R	10 , 11	.....	P, Parish & B.	....	Mather....	.....	38x2½-51x2½...	L	Ross.....	.....	W, Royer..	130	35x3p-35x5.....	.....	.....	82
83	W, Timken, 6352..	Y	B	2, R	10 , 11½	E, E	P, Parish.....	½, ½	Perfection..	.....	39½x2½-53½x2½..	L	Ross.....	.....	W.....	134	34x3½-34x4.....	3,220	58, 71	83
84	I, Clark, 1D.....	Y	B	2, R	10 , 10	C, C	P.....	½, ½	Detroit....	8, 11	38½x2-50x2½...	L	Ross.....	45, 0	W, Wayne..	130	34x3½-34x4.....	2,820	53, 70	84
85	I, Torbensen, A...	Y	B	2, R	11 , 11½	C, E	P.....	½, ½	Tuthill....	8, 11	37½x2-44x2½...	L	C.A.S....	36, 0	W, Schwarz.	124	34x4½p-34x5p.....	2,950	75, —	85
86	I, Clark, 1D	Y	B	2, R	11½, 12	C, E	P, Detroit.....	½, ½	Detroit....	8, 10	39x2½-52½x2½..	L	Jacox.....	.....	W.....	130	3x3½-34x4.....	3,070	30, 70	86
87	W, Sheldon, W1501	Y	W	2, R	.....	E, E	P, Savage.....	½, ½	.....	.....	36x2½-48x2½...	L	Ross.....	.....	W, Schwarz.	132	34x3½-34x5.....	3,500	.....	87
88	W, Sheldon, W1501	Y	W	2, R	12¾, 11	E, E	P.....	½, ½	Sheldon....	9, 12	40x2½-54x2½...	L	Gemmer..	35, 0	W, Hoopes.	125	35x5p-35x5p.....	3,790	40, 70	88
88a	W Timken, 6352..	Y	W	2, R	11½, 11½	E, E	P, Parish & B.	½, ½	Sheldon....	8, 10	38x2-52x2½...	L	Lavine...	44, 0	W, Bimel..	124	35x5p-35x5p.....	3 150	.....	88a
88b	W, Sheldon.....	Y	B	2, R	10¼, 10¼	E, E	P, Own.....	½, ½	Detroit....	.....	40x2½-50x3....	R	Ross.....	.....	W.....	144	36x3-36x4.....	3,650	.....	88b
89	W, Wis., 800D....	Y	B	2, R	.....	E, E	P.....	½, ½	Sheldon....	9, 11	36x2½-50x2½...	L	Gemmer..	.....	I. Smith....	130	35x5p-35x5p.....	3,600	25, 75	89
90	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish.....	½, ½	Delaney....	.....	.....	L	Ross.....	.....	W, Archibald	120	36x3½-36x4.....	.....	.....	90
91	W.....	Y	B	2, R	.....	E, E	P.....	½, ½	.....	8, 8	42x2½-50x2½...	L	Ross.....	50, 0	W.....	135	36x3½-36x4.....	3,900	.....	91
92	W, Timken.....	....	.....	2, R	.....	.....	P, Parish.....	....	Delaney....	.....	.....	....	Lavine ...	.....	.....	135	36x3½-36x5.....	.....	.....	92
93	W, Sheldon, W1501	N	B	2, R	10, 8½	E, E	R, Illinois....	½, ½	Sheldon....	8, 9	38x2-50x2½...	L	Wohlrab..	44, 0	W, Bimel...	134	34x3½-34x5.....	4,100	55, 65	93
94	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Parish & B.	½, ½	Mather....	8, 13	38x2½-54x2½...	L	Own	.....	W, Wayne..	131	34x3-34x5.....	3.300	.....	94
95	W, Timken, 6453..	Y	W	2, R	10, 10	E, E	R, Own.....	½, ½	Standard...	9, 11	40x2½-50x3....	L	Lavine...	43, 0	W, Standard	135	36x3½-36x4.....	3,450	40, 66	95
96	W	Y	B	2, R	.....	E, E	P, Detroit	½, ½	Mather....	8, 10	40x2½-54x3....	L	Ross.....	.....	W.....	135	36x3½-36x5.....	4.350	60, 85	96
96a	B, Own.....	N	B	2,R	11¾, 9½	C, E	P, Own.....	½, ½	Penn.....	.....	38x2-40x2½...	L	Own.....	44, 0	W.....	128	34x4½p-34x4½p....	2,615	43½, 62½	96a
97	W, Timken, 6460..	Y	W	2, R	11 , 11	E, E	P, Savage.....	½, ½	Detroit....	8, 12	39x2½-52x2½...	L	Ross.....	.....	W, Bimel...	142	36x3½-36x6.....	3,800	—. 74	97
98	W, Timken, 6460..	Y	W	2, R	10 , 11	E, E	P, Parish & B..	½, ½	Mather....	9, 9	39½x2½-53½x3..	L	Ross.....	.....	W, Schwarz.	144	36x6p-38x7p.....	4,750	50. 80	98
99	W, Timken, 6460..	Y	B	2, R	9 , 9½	E, E	P, Smith.....	½, ½	Detroit....	8, 12	38x2½-52x2½...	L	Ross.....	54, 0	W, Bimel...	141	34x3½-34x5.....	3,700	50, 70	99
99a	W, Sheldon, W103	N	.....	2, R	.....	E, E	R	½, ½	Sheldon....	9, 13	38x2½-52x3....	L	Ross	.....	W.....	144	36x3½-36x5.....	.....	50, 70	99a
99b	I, Torbensen.....	....	W, Powrlok	2, R	.....	E, E	P	½, ½	.....	10, 12	40x2½-54x3....	....	.....	.....	W.....	144	34x4-34x5.....	.....	.....	99b
100	I, Torbensen.....	Y	W, Powrlok	2, R	10½, 11½	C, E	R	½, ½	Detroit....	8, 12	36x2-52½x2½...	L	Lavine...	.....	W, Bimel...	130	32x3½-32x4.....	3,070	—. 66	100
100a	W, Timken.....	....	.....	2, R	.....	.....	.....	½, ½	Spring Perch	.....	.....	....	Gemmer..	.....	W, Archibald	140	36x3½-36x5.....	4,770	.....	100a
100b	W, Wisconsin.....	N	B	2, R	9½, 9½	E, E	R, Own.....	½, ½	Tuthill....	8, 10	40x2½-50x3....	L	Ross.....	42, 0	W, St. Mary's	152	36x3½-36x5.....	4.000	55, 75	100b
101	I, Clark, 1B.....	N	B	2, R	14 , 13	C, E	P, Parish & B..	½, ½	Higgins....	7, 12	40x2½-52x2½...	L	Lavine...	48, 0	W, Bimel...	132	35x5-35x5.....	2,800	30, 75	101
102	I, Russel	Y	B	2, R	12 , 13	C, E	R, Own.....	½, ½	Detroit	7, 12	40x2-54x2½...	L	Gemmer..	52, 0	W, Bimel...	132	32x3½x32x4.....	3,500	50, 70	102
103	I, Torbensen, C...	N	B	2, R	11 , 12	C, E	P.....	½, ½	Perfection..	8, 11	39x2½-56x3....	L	Ross.....	54, 0	W, Schwarz.	144	36x3½-36x5.....	3,600	53, 65	103
104	W, Wisconsin.....	....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	....	Ross.....	.....	.....	....	34x3½-36x6.....	.....	.....	104
105	W, Sheldon, W1501	N	B	2, R	.....	E. E	P, Parish.....	½, ½	Sheldon....	8, 10	39x2½-48x3....	L	Gemmer..	.....	W, Hoopes.	140	36x3½-36x5.....	3,550	52, 74	105
105a	W, Wisc., 800F..	Y	B	2, R	12¾, 11	E, E	R.....	½, ½	SpringPerch	.....	41½x2½-54x2½..	L	Ross	51,0	W, Ames..	144	35x5p-38x7p.....	4,600	55,85	105a
106	W, Timken, 6460..	Y	B	2, R	10½, 11	E, E	R.....	½, ½	Mather....	8, 11	40x2½-54x3....	L	Gemmer..	.....	W, Standard	144	36x3½-36x5.....	3,900	60, 75	106
106a	I, Torbensen.....	....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	....	.....	.....	.....	146	36x6p-38x7p.....	4,150	.....	106a
107	W, Timken, 6460..	N	B	2, R	10½, 10	E, E	P, Parish & B..	½, ½	Perfection..	9, 9	36x2½-50x3....	L	Ross.....	56, 0	W, Bimel...	151	36x3½-36x6.....	3,850	51, 78	107
108	W	....	.....	2, R	.....	E, E	.....	½, ½	.....	.....	.....	....	Ross.....	.....	.....	144	36x4-36x6.....	.....	.....	108
109	B, Standard, C....	Y	B	2, R	10 , 12	C, E	P.....	½, ½	Marathon..	7, 12	36½x2-50½x3...	L	Gemmer..	56, 0	W, Moline..	130	33x4p-33x4.....	3,240	60, 70	109
110	I, Torbensen, A...	Y	B	2, R	11, 12½	C, E	P, Detroit.....	½, ½	Detroit....	8, 11	36x2½-50x3....	L	Jacox....	50, 0	W, Bimel...	134	36x6p-36x6p.....	3,200	—, 90	110
111	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish & B..	½, ½	Spring Perch	.....	.....	L	Ross.....	.....	W, Crane..	140	36x3½-36x5.....	.....	.....	111
112	W, Sheldon.....	Y	W	2, R	.....	E, E	R, Own.....	½, ½	Mather....	9, 11	38x2½-50x2½...	L	Ross.....	.....	W, Bimel...	136	36x3½-36x5.....	.....	.....	112
113	W, Own.....	Y	B	2, R	10½, 10½	F. F	P, Savage.....	½, ½	Perfection..	7, 11	37x2-54x2½...	L	Ross.....	44. 0	W, Prudden	140	34x3½-34x6.....	3.300	50, 80	113
114	W, Sheldon, W1501	Y	B	2, R	10, 10	E, E	P, Savage.....	½, ½	Iron City..	9, 13	40x2½-54x2½...	L	Gemmer..	51, 9	W, Jones...	144	34x3½-34x5.....	3,500	50, 70	114
115	W, Wisconsin.....	Y	B	2, R	10, 12	E, E	P, Own.....	½, ½	Maremont..	7, 9	35x2½-52x2½...	L	Lavine...	42, 0	W, Crane..	126	34x4-34x5.....	3,280	50, 75	115
116	I, Torbensen.....	....	.....	2, R	.....	E, E	P, Detroit.....	½, ½	Detroit....	.....	.....	L	.....	.....	W, Crane..	140	35x5-36x6.....	.....	.....	116
117	W, Wisc., 800H...	Y	W	2, R	10, 10	E, E	P.....	½, ½	Perfection..	9, 11	40x2½-48x2½...	L	Ross.....	54, 0	W, Bimel...	128	34x5-34x5.....	4,120	40, 70	117
118	W, Wisc., 800H..	Y	W	2, R	.....	E, E	P, Smith.....	½, ½	Mather....	8, 10	40x2½-53x2½...	L	Gemmer..	.....	W.....	144	36x3½-36x5.....	4,000	50, 90	118
118a	I, Torbensen.....	....	.....	2, R	.....	.....	.....	½, ½	Own.....	.....	.....	....	Ross.....	.....	.....	127	34x3½-34x5.....	3,725	.....	118a
119	W, Sheldon.....	Y	B	2, R	11, 11½	E, E	P, Parish & B.	½, ½	Penn.....	9, 9	39x2½-50x2½...	L	Ross.....	.....	W, Prudden.	145	35x5p-38x7p.....	.....	.....	119
120	W, Timken.....	....	.....	2, R	.....	.....	P.....	....	.....	.....	.....	....	Ross.....	.....	.....	144	34x3½-36x5.....	.....	.....	120
121	W, Standard, 603.	Y	B	2, R	10½, 10	E, E	R, Own.....	½, ½	Mather....	8, 11	41x2½-56x3....	L	Ross.....	.....	W, Prudden.	136	34x3½-34x6.....	3.500	50, 70	121
121a	I, Clark.....	....	.....	2, R	.....	.....	.....	½, ½	Detroit....	.....	.....	....	Ross.....	.....	W, Bimel...	138	36x3½-36x5.....	3,600	.....	121a
122	W, Timken, 6560..	N	B	2, R	12½, 9	E, E	P, Detroit	½, ½	Mather....	9, 9	40x2½-54x3....	L	Gemmer..	46, 3	W, Auto....	144	36x3½-36x5.....	4,250	56, 69	122
123	W, Sheldon.....	....	.....	2, R	.....	E, E	R, Own.....	½, ½	Own.....	.....	.....	....	Ross.....	.....	I. Smith....	120	36x3½-36x5.....	.....	.....	123
123a	W, Own.....	....	.....	2, R	.....	.....	.....	½, ½	Own.....	.....	.....	....	Lavine...	.....	W, Standard	.....	34x5-34x5.....	3,200	.....	123a
124	W, Timken, 6460..	Y	W	2, R	12, 10¾	E, E	P, Own.....	½, ½	Tuthill....	9, 12	44x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	142	36x3½-36x5.....	3,800	50, 20	124
124a	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	R, Own.....	½, ½	Tuthill....	10, 11	42x2½-54x3....	L	Ross.....	48, 0	W, Western.	142	36x3½-36x6.....	4,700	45, 80	124a
125	W, Sheldon, W-1500	Y	B	2, R	13, 9¾	E, E	P, Hydraulic..	½, ½	Mather....	6, 11	38x2-48x2½...	R	Jacox.....	.....	W, Wayne..	138	34x3½-34x5.....	3,600	55. 75	125
126	W, Timken, 6460..	N	B	2, R	10¾, 9½	E, E	P, Smith.....	½, ½	Detroit....	8, 10	36x2½-54x3....	L	Jacox....	51, 0	W.....	130	36x3½-36x5.....	4,205	55, 74	126
127	I, Torbensen.....	Y	B	2, R	11, 12½	C, C	P, Detroit.....	½, ½	Detroit....	9, 12	42x2½-52x3....	L	Lavine...	48, 0	S, Disteel..	133	35x5p-36x6p.....	2,950	. ,80	127
128	I, Clark.....	Y	B	2, R	11, 11	C, E	P, Own.....	½, ½	Perfection..	10, 11	40x2½-52x2½...	L	Ross.....	51, 0	W, Bimel...	138	36x3½-36x5.....	3,800	69, 90½	128
129	W, Standard.....	Y	B	2, R	11,	E, E	P, Own.....	½, ½	Perfection..	10, 11	40x2½-52x2½...	L	Ross.....	51, 0	W, Bimel...	138	36x3½-36x5.....	4,200	69, 90½	129
130	I, Torbensen, A...	Y	B	2, R	10, 10½	C, E	P.....	½, ½	Perfection..	11, 12	42x2½-50x2½...	L	Jacox....	45, 0	W, Royer...	140	35x5p-38x7p.....	3.450	47½, 67	130
131	I, Clark.....	....	.....	2, R	.....	.....	.....	½, ½	Garden City	.....	.....	....	Wohlrab..	.....	W, Royer...	142	35x5-35x5.....	3,200	.....	131
132	W, Sheldon.....	....	.....	.....	.....	E, E	P, Own.....	....	Sheldon....	.....	.....	L	Ross.....	.....	W, Schwarz.	128	34x3½-34x5.....	.....	.....	132
133	I, Clark.....	....	.....	2, R	.....	C, E	R, Own.....	½, ½	Detroit....	.....	.....	L	Ross.....	.....	W, Bimel...	148½	34x3½-34x5.....	.....	.....	133
133a	W, Sheldon.....	....	.....	2, R	.....	.....	.....	½, ½	Perfection..	.....	.....	....	Lavine...	.....	S, Detroit..	130	36x6-36x6.....	3,100	.....	133a
133b	W, Sheldon.....	....	.....	2, R	.....	.....	.....	½, ½	Sheldon....	.....	.....	....	Lavine...	.....	W, E & O..	132	36x4-34x5.....	3,150	.....	133b
133c	W, Sheldon.....	....	.....	2, R	.....	.....	.....	½, ½	Sheldon....	.....	.....	....	Ross.....	.....	N, Schwarz.	144	36x4-36x7.....	4,560	.....	133c
134	I, Torbensen.....	....	.....	2, R	.....	L, C	P.....	½, ½	Perfection..	.....	.....	....	Lavine...	.....	W.....	140	34x3½-34x5.....	.....	.....	134
135	W	....	.....	2, R	.....	E, E	P.....	½, ½	Perfection..	.....	.....	....	Lavine...	.....	W.....	140	34x3½-34x5.....	.....	.....	135
136	W, Hindley.....	....	.....	2, R	.....	E, C	P, Savage.....	½, ½	Perfection..	.....	.....	....	Ross.....	.....	W, Wayne..	148	34x4-34x5.....	.....	.....	136
137	I, Torbensen.....	....	.....	2, R	.....	C, E	P.....	½, ½	.....	.....	.....	....	Lavine...	.....	W.....	135	34x3½-34x5.....	.....	.....	137
139	I, Own.....	....	B	2, R	10½, 11½	E, E	P.....	½, ½	.....	10, 14	41½x2½-56x3...	L	Own.....	.....	W.....	128	36x3½-36x5.....	3,400	50, 67	139

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2,000 (National)—3,000 (International) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasoline, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	2,000 Pds.—Con.																			
72	National, FA	.....	Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	72
73	Noble, A20	.....	Buda	4	3¾x5½-22.5	..	Pierce	P	T, Chicago	Y	Stromberg	Y	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	M & E.	73
74	Ogden, A1	2,295	Continental, N.	4	3¾x5-22.5	S	Pierce	T	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Acme	74
75	Palmer	1,585	Continental, N.	4	3¾x5-22.5	FS	Pierce	T	C, Fedders	..	Stromberg	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	..	75
75a	Pioneer, AA	1,550	G. B. & S	4	3¾x4½-22.5	F	..	T	C, Chicago	..	Zenith	G	M, Dixie	..	M, Detroit	S, 3	Grant-Lees	..	Thermoid	75a
76	Rainier, R9	2,350	Continental, N.	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	76
77	Republic, 10	1,650	Continental, N.	4	3¾x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	77
78	Royal	2,400	Wisconsin	4	3¾x5-16.9	..	Monarch	P	T, Kells	..	Stromberg	..	M, Bosch	..	P, Borg & B	I, 3	Own	..	..	78
79	Sandow, G	2,195	Continental, N.	4	3¾x5-19.5	S	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	79
80	Service, 220	2,415	Buda, RU	4	3¾x5½-19.6	FS	N	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Arvac	80
80a	Shaw, M4	2,300	Continental, N3½	4	3¾x5-22.5	FS	..	T	C	..	Zenith	G	M, Bosch	..	M, Brown-L	S, 3	Brown-L	..	Spicer	80a
81	Signal, NF	2,750	Continental, J4	4	3¾x5-22.5	FS	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	81
82	Southern, 10	2,000	Buda, RU	4	3¾x5½-19.6	FS	Pierce	T	T, Standard	N	Zenith	..	M, Bosch	N	P, Borg & B	S, 4	Fuller	N	Spicer	82
83	Standard, 56	2,250	Continental, N.	4	3¾x5-22.5	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	83
84	Stewart, 12	1,650	Continental, N.	4	3¾x5-19.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Durston, 02800	N	Hartford	84
85	Superior, D	1,800	Continental, N.	4	3¾x5-22.5	F	Pierce	T	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	Y	Arvac	85
86	Transport 20	1,850	Buda, WU	4	3¾x5½-22.5	FS	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Thermoid	86
87	Traylor, B	2,075	Buda, WU	4	3¾x5½-22.5	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N	..	87
88	Vim, 31	2,477	Hercules	4	3¾x5½-22.5	F	N	P	T, McCord	N	Zenith	G	M, Dixie	Y	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	88
88a	White Hickory, E	2,450	Continental, N.	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	M & E.	88a
88b	Wichita, K	2,300	Own	4	3¾x5-19.6	S	N	P	C, Perfex	Y	Stromberg	G	M	..	C	I, 4	..	N	Thermoid	88b
89	Wilcox, A	.....	Buda, QU	4	3¾x5½-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	..	89
90	Witt-Will, N	2,150	Continental	4	3¾x5-22.5	..	Pierce	P	C, Bremer	..	Zenith	..	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	..	Spicer	90
	2,500 Pounds:																			
91	Garford, 25	2,000	..	4	3¾x5½-22.5	S	Monarch	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M	S, 3	..	N	..	91
92	Hahn, C	1,950	Continental C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago	..	Stromberg	..	M, Bosch	..	M, Brown-L	S, 3	Brown-L	..	..	92
93	Indiana, 12	2,200	Waukesha, BUX	4	3¾x5-22.5	F	Waukesha	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, G1	N	Acme	93
94	Koehler, C	1,985	Herschell-Spill. 7000	4	3¾x5-19.6	F	Simplex	T	C, Gordon	Y	Zenith	G	M, Eisemann	N	P, Mechanics	S, 3	Mechanics, LU	N	Kinsler-B	94
95	Old Hickory, W	2,175	Continental, N.	4	3¾x5-22.5	FS	Pierce	T	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Blood	95
96	Oneida, A9	2,350	..	4	3¾x5½-22.5	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3	..	N	Peters	96
96a	Reo, F	† 1,385	Own	4	4¼x4½-27.2	FS	N	P	T, Own	N	Johnson	G	B	Y	M, Own	S, 3	Own	N	Own	96a
	3,000 Pounds:																			
97	Acason, RB	2,650	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	97
98	Ace, C	2,750	Buda, WU	4	3¾x5½-22.5	F	Pierce	T	C, Modine	Y	Schebler	G	B, Westingh'e	Y	M, Fuller	S, 3	Fuller	N	M & E.	98
99	Acme, F	2,475	Continental, J4	4	3¾x5-22.5	F	Duplex	P	T, G & O	N	Zenith	G	M, Eisemann	N	P, Borg & B	I, 3	Cotta, AAU	N	Blood	99
99a	Aetna	2,775	Wisc., CAU	4	3¾x5½-22.5	F	Pierce	P	T, Own	Y	Zenith	G	M	..	P, Borg & B	I, 4	Cotta, A	N	Spicer	99a
99b	All-American	2,195	Herschell-Spill'n	4	3¾x5-19.6	FS	..	T	..	..	Stromberg	..	M, Simms	..	M	I, 4	Cotta	..	..	99b
100	Apex, D	1,915	Buda, RU	4	3¾x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	Auto-Lite	N	M, Fuller	I, 4	Fuller, TU¾	N	Detroit	100
100a	Atterbury, 20R	2,775	Continental, J4	4	3¾x5-22.5	S	Monarch	P	T, Own	..	Zenith	G	M, Berling	..	M, Brown-L	S, 4	Brown-L	..	Spicer	100a
100b	Available, H1½	2,750	Hercules, CU3	4	4x5½-25.6	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	I, 4	Cotta, A	N	M & E.	100b
101	Beck, A	1,950	Continental	4	3¾x5-22.5	S	Pierce	T	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	Y	Blood	101
102	Bell	2,250	Buda, CTU	4	3¾x5½-22.5	F	Duplex	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit, DX	Y	Universal	102
103	Bessemer, H2	2,445	Continental, N.	4	3¾x5-22.5	S	Pierce	T	C, Standard	N	Zenith	G	M, Bosch	N	P, Borg & B	S, 3	Brown-L, 35	N	Arvac	103
104	Bridgeport, A	2,350	Buda, WU	4	3¾x5½-22.5	..	Pierce	..	T	..	Stromberg	G	M, Eisemann	..	P, Borg & B	I, 3	Cotta	..	Hartford	104
105	Brookway, S2	2,250	Continental, N.	4	3¾x5-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	105
105a	Capitol, G1½	2,750	Wisconsin	4	3¾x5-22.5	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	Y	M, Detlaff	I, 4	Cotta, AU	N	Thermoid	105a
106	Chicago, C1½	2,450	Hercules, CU2	4	3¾x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	106
106a	Climber, A2	2,650	Herschell-Spill. 7000	4	3¾x5-19.6	FS	..	T	T	..	Stromberg	G	Atwater-K	..	M	..	..	..	..	106a
107	Clydesdale, 42C	2,750	Own	4	4x5½-25.6	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	107
108	Collier, 19	.....	Continental	4	3¾x5-22.5	..	Monarch	P	..	..	Zenith	..	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	..	108
109	Comet, 1-T-2	1,950	Lycoming	4	3¾x5-19.6	S	N	T	C, Standard	Y	Carter	G	B, Dyneto	Y	P, Borg & B	S, 3	Muncie, T25	Y	Arvac	109
110	Commerce, EP	2,255	Continental, N.	4	3¾x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	110
111	Concord, A	2,350	Buda	4	3¾x5½-22.5	..	Monarch	P	T, Bush	..	Zenith	..	M, Eisemann	..	M, Brown-L	S, 3	Brown-Lipe	..	Spicer	111
112	Corbitt, D	2,600	Continental, N.	4	3¾x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	112
113	Dart, S	2,250	Buda, WU	4	3¾x5½-22.5	F	Pierce	T	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	Y	Spicer	113
114	Day-Elder, B	2,300	Continental, N.	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	114
115	Dearborn, F	2,180	Continental, N.	4	3¾x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Hartford	115
116	Defiance, D	2,550	Own	4	3¾x5-22.5	..	N	P	C, Perfex	..	Stromberg	..	..	Y	P, Borg & B	S, 3	Grant-Lees	..	..	116
117	Dependable, C	2,350	Buda, CTU	4	3¾x5½-22.5	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 3	Fuller, LTU	N	Acme	117
118	Diamond T, T *	2,450	Hinkley	4	3¾x5½-22.5	F	Unit Mot	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 3	Covert	N	Sn'd & Sp	118
118a	Douglas, G	2,200	Weidely	4	3¾x5½-22.5	F	..	P	T, Own	..	Schebler	..	M, Eisemann	..	P, Borg & B	S, 3	Grant-Lees	..	Arvac	118a
119	Duplex, A	2,775	Hinkley, HAA	4	4x5½-25.6	FS	N	P	T, Modine	N	Stromberg	G	B	Y	M, Covert	S, 3	Covert, MUC	Y	Peters	119
120	Erie	.....	..	4	4¼x5½-27.2	..	Pierce	P	..	..	Stromberg	..	M, Bosch	..	M	4	..	..	..	120
121	Fageol	3,500	Lycoming, K	4	3¾x5-19.6	S	N	P	C, Modine	N	Zenith	DG	M, Dixie	N	P, Borg & B	S, 5	Own	Y	Detroit	121
121a	Famous, B12	2,295	Continental, N3½	4	3¾x5-22.5	S	Monarch	T	T, Chicago	..	Stromberg	G	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	Bearings	121a
122	Federal, TE	2,725	Continental, C4	4	4¼x5½-27.2	S	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit	N	Spicer	122
123	Forschler, AX	2,375	Continental	4	3¾x5-19.6	..	Duplex	P	T, Own	..	Zenith	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	Own	123
123a	Front Drive, C	2,800	Buda, CTU	4	3¾x5½-22.5	S	Pierce	P	T, E. & M	..	Zenith	G	M, Louraine	..	P, Borg & B	S, 3	Own	..	Own	123a
124	Gary, GT	2,550	Buda, TU	4	4x5½-25.6	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Blood	124
124a	Gersix, M	3,100	Buda, TU	4	4x5½-25.6	F	Monarch	P	C, Ideal	N	Stromberg	G	M, Bosch	N	P, Borg & B	I, 3	Cotta, BUA	N	Blood	124a
125	Giant, 15	2,425	Continental, N	4	3¾x5-22.5	FS	N	P	C, Ideal	N	Schebler	G, K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	125
126	GMC, 31A	.....	Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	126
127	Graham Brothers	2,495	Continental, N	4	3¾x5-22.5	FS	Monarch	T	T, Long	N	Stromberg	..	M, Eisemann	..	M, Fuller	S, 3	Fuller	N	Hartford	127
128	Gramm-B'nst'n, 15 (int.)	2,050	Continental, N	4	3¾x5-22.5	FS	N	T	T, Own	N	Stromberg	G	B, Northeast	N	M, Fuller	S, 3	Fuller	N	Own	128
129	Gramm-B'nst'n, 65(w'm)	2,725	Continental, N	4	3¾x5-22.5	FS	N	T	T, Own	Y	Stromberg	G	B, Northeast	N	M, Fuller	I, 3	Own	N	Own	129
130	Grant, 17	2,675	Continental, N	4	3¾x5-22.5	FS	Pierce	T	C, Fedders	N	..	G	M, Splitdorf	Y	M, Brown-L	S, 4	Brown-L, 35	N	..	130
131	G. W. W	2,100	Weidely	4	3¾x5½-22.5	F	..	P	T, Chicago	..	Schebler	G	Delco	..	M, Fuller	S, 3	Fuller	..	Acme	131
132	Harvey, WEA	2,550	Buda	4	4¼x5½-27.2	..	Monarch	P	T, Chicago	..	Zenith	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	Arvac	132
133	Hawkeye, K	2,365	Buda	4	3¾x5½-22.5	..	Simplex	P	T, Ideal	..	Zenith	..	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	Hartford	133
133a	Higrade, B20	2,500	Continental, J4	4	4¼x5½-27.2	FS	..	P	T, Perfex	..	Zenith	G	M, Eisemann	..	M, Fuller	S, 3	Fuller	..	Blood	133a
133b	Hoover, 20A	.....	Continental, N	4	3¾x5-19.6	F	Pierce	P	Candler	..	Schebler	G	M, Dixie	..	M, Fuller	S, 3	Fuller	..	Arvac	133b
133c	H. R. L., R	3,250	Hinkley	4	4x5½-25.6	F	Hinkley	P	C, Fedders	..	Zenith	G	M, Bosch	..	M, Brown-L	S, 4	Brown-L	..	Spicer	133c
134	Huffman, C (int.)	1,695	Continental	4	3¾x5-22.5	F	..	T	C	..	Zenith	..	M, Dixie	..	M, Fuller	S, 3	Fuller	..	..	134
135	Huffman, B (worm)	1,895	Continental	4	3¾x5-22.5	F	..	T	C	..	Zenith	..	B, Northeast	..	M, Fuller	S, 3	Fuller	..	..	135
136	Hurlburt, A	2,850	Buda, IU	4	4x5½-25.6	FS	Duplex	P	T, Own	..	Flechter	..	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	..	..	136
137	Independent (Iowa)	2,040	Continental, N.	4	3¾x5-22.5	FS	..	..	T, Chicago	..	Stromberg	..	M, Bosch	..	M, Fuller	S, 3	Fuller	..	..	137
139	International, K	3,400	Own	4	3¾x5½-19.6	FS	Own	P	T, Long, McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	139

* Model FS has same specifications, but includes cab and farm body, and is priced at $2,715. † Without seat.

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TRUCK SPECIFICATIONS

2,000 (National)—3,000 (International)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
72	W, Timken, 6352..	Y	W	2, R	10½, 10½	E, E	P	½, ½	Coghlin	8, 10	40x2½-52x2½	L	Ross	34, 0	W, Hayes	136	34x3½-34x3½	3,350	.....	72
73	W, Sheldon			2, R	.....	E, E	P, Slick-Knox	½, ½	SpringPerch	.....	.....	L	Lavine	.....	W, Bimel	144	36x3½-36x4	3,920	.....	73
74	W, Timken, 6460..	Y	S	2, R	10 , 10	E, E	P, Garden City	C, C	Tuthill	8, 10	38x2½-50x2½	L	Gemmer	.....	W, Standard	136	36x3½-36x4	3,400	—, 70	74
75	I, Torbensen			2, R	.....	.....	P, Parish & B	½, ½	Champion	.....	.....	...	Ross	.....	W	132	34x3½x34x4	.....	.....	75
75a	W			2, R	.....	.....	.....	½, ½	Garden City	.....	.....	...	Ditweiler	.....	W, St. M'rys	130	32x4½p-32x4½p	2,300	.....	75a
76	W, Sheldon, W1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 13	38x2-50x2½	L	Lavine	.....	W, Schwarz	125	32x3½-32x4	2,750	75, 75	76
77	I, Torbensen, A	Y	B	2, R	.....	C, E	P, Detroit	½, ½	Mather	7, 11	39x2½-52½x2½	L	Jacox	.....	W	124	34x3-34x4	2,925	.....	77
78	W, Timken			2, R	.....	E, E	R, Own	.....	Merrill	.....	.....	...	Ross	.....	W	128	34x4-34x5	.....	.....	78
79	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage	½, ½	Garden City	7, 10	36x2½-52x2½	L	Ross	48, 0	W, Standard	120	34x3½-34x5	3,300	20, 70	79
80	W, Timken, 6456..	Y	B	2, R	9½, 9	E, E	P	½, ½	Mather	8, 9	40x2½-50x2½	L	Ross	42, 0	W, Bimel	137	34x3½-34x5	3,470	—, 70	80
80a	W			2, R	.....	.....	.....	½, ½	Mather	.....	.....	...	Gemmer	.....	.....	130	35x5p-35x5p	2,575	.....	80a
81	W, Timken, 6352..	N	B	2, R	11 , 11	E, E	P, Savage	½, ½	Detroit	10, 11	38x2½-52x2½	L	Ross	53, 0	W, Hayes	132	34x5p-36x6p	4,395	—, 70	81
82	W, Sheldon	Y	W	2, R	10 , 11	.....	P, Parish & B	.....	Mather	.....	38x2½-51x2½	L	Ross	.....	W, Royer	130	35x3p-35x5	.....	.....	82
83	W, Timken, 6352..	Y	B	2, R	10 , 11½	E, E	P, Parish	½, ½	Perfection	.....	39½x2½-53½x2½	L	Ross	.....	W	134	34x3½-34x4	3,220	58, 71	83
84	I, Clark, 1D	Y	B	2, R	10 , 10	C, C	P	½, ½	Detroit	8, 11	38½x2-50x2½	L	Ross	45, 0	W, Wayne	130	34x3½-34x4	2,820	53, 70	84
85	I, Torbensen, A	Y	B	2, R	11 , 11½	C, E	P	½, ½	Tuthill	8, 11	37½x2-44x2½	L	C.A.S	36, 0	W, Schwarz	124	34x4½p-34x5p	2,950	75, —	85
86	I, Clark, 1D	Y	B	2, R	11½, 12	C, E	P, Detroit	½, ½	Detroit	8, 10	39x2½-52½x2½	L	Jacox	.....	W	130	3x3½-34x4	3,070	30, 70	86
87	W, Sheldon, W1501	Y	W	2, R	.....	E, E	P, Savage	½, ½	.....	.....	36x2½-48x2½	L	Ross	.....	W, Schwarz	132	34x3½-34x5	3,500	.....	87
88	W, Sheldon, W1501	Y	W	2, R	12⅜, 11	E, E	P	½, ½	Sheldon	9, 12	40x2½-54x2½	L	Gemmer	35, 0	W, Hoopes	125	35x5p-35x5p	3,790	40, 70	88
88a	W Timken, 6352..	Y	W	2, R	11½, 11½	E, E	P, Parish & B	½, ½	Sheldon	8, 10	38x2-52x2½	L	Lavine	44, 0	W, Bimel	124	35x5p-35x5p	3 150	.....	88a
88b	W, Sheldon	Y	B	2, R	10¾, 10¾	E, E	P, Own	½, ½	Detroit	....	40x2½-50x3	R	Ross	.....	W	144	36x3-36x4	3,650	.....	88b
89	W, Wis., 800D	Y	B	2, R	.....	E, E	P	½, ½	Sheldon	9, 11	36x2½-50x2½	L	Gemmer	.....	I, Smith	130	35x5p-35x5p	3,600	25, 75	89
90	W, Timken			2, R	.....	E, E	P, Parish	½, ½	Delaney	.....	.....	L	Ross	.....	W, Archibald	120	36x3½-36x4	.....	.....	90
91	W	Y	B	2, R	.....	E, E	P	½, ½	.....	8, 8	42x2½-50x2½	L	Ross	50, 0	W	135	36x3½-36x4	3,900	.....	91
92	W, Timken			2, R	.....	.....	P, Parish	.....	Delaney	.....	.....	...	Lavine	.....	.....	135	36x3½-36x5	.....	.....	92
93	W, Sheldon, W1501	N	B	2, R	10, 8½	E, E	R, Illinois	½, ½	Sheldon	8, 9	38x2-50x2½	L	Wohlrab	44, 0	W, Bimel	134	34x3½-34x5	4,100	55, 65	93
94	I, Torbensen, A	Y	B	2, R	.....	C, E	P, Parish & B	½, ½	Mather	8, 13	38x2½-54x2½	L	Own	.....	W, Wayne	131	34x3-34x5	3,300	.....	94
95	W, Timken, 6453..	Y	W	2, R	10, 10	E, E	R, Own	½, ½	Standard	9, 11	40x2½-50x3	L	Lavine	43, 0	W, Standard	135	36x3½-36x4	3,450	40, 66	95
96	W	Y	B	2, R	.....	E, E	P, Detroit	½, ½	Mather	8, 10	40x2½-54x3	L	Ross	.....	W	135	36x3½-36x5	4,350	60, 85	96
96a	B, Own	N	B	2, R	11½, 9⅝	C, E	P, Own	½, ½	Penn	.....	38x2-40x2½	L	Own	44, 0	W	128	34x4½p-34x4½p	2,615	43½, 62½	96a
97	W, Timken, 6460..	Y	W	2, R	11 , 11	E, E	P, Savage	½, ½	Detroit	8, 12	39x2½-52x2½	L	Ross	.....	W, Bimel	142	36x3½-36x6	3,800	—, 74	97
98	W, Timken, 6460..	Y	W	2, R	10 , 11	E, E	P, Parish & B	½, ½	Mather	9, 9	39½x2½-53½x3	L	Ross	.....	W, Schwarz	144	36x6p-38x7p	4,750	50, 80	98
99	W, Timken, 6460	Y	B	2, R	9 , 9½	E, E	P, Smith	½, ½	Detroit	8, 12	38x2½-52x2½	L	Ross	54, 0	W, Bimel	141	34x3½-34x5	3,700	50, 70	99
99a	W, Sheldon, W103	N		2, R	.....	E, E	R	½, ½	Sheldon	9, 13	38x2½-52x3	L	Ross	.....	W	144	36x3½-36x5	.....	50, 70	99a
99b	I, Torbensen		W, Powrlok	2, R	.....	E, E	P	½, ½	.....	10, 12	40x2½-54x3	...	.....	.....	W	144	34x4-34x5	.....	.....	99b
100	I, Torbensen	Y	W, Powrlok	2, R	10½, 11½	C, E	R	½, ½	Detroit	8, 12	36x2-52½x2½	L	Lavine	.....	W, Bimel	130	32x3½-32x4	3,070	—, 66	100
100a	W, Timken			2, R	.....	.....	.....	½, ½	Spring Perch	.....	.....	...	Gemmer	.....	W, Archibald	140	36x3½-36x5	4,770	.....	100a
100b	W, Wisconsin	N	B	2, R	9½, 9½	E, E	R, Own	½, ½	Tuthill	8, 10	40x2½-50x3	L	Ross	42, 0	W, St. Mary's	152	36x3½-36x5	4,000	55, 75	100b
101	I, Clark, 1B	N	B	2, R	14 , 13	C, E	P, Parish & B	½, ½	Higgins	7, 12	40x2½-52x2½	L	Lavine	48, 0	W, Bimel	132	35x5-35x5	2,800	30, 75	101
102	I, Russel	Y	B	2, R	12 , 13	C, E	R, Own	½, ½	Detroit	7, 12	40x3-54x2½	L	Gemmer	52, 0	W, Bimel	132	32x3½x32x4	3,500	50, 70	102
103	I, Torbensen, C	N	B	2, R	11 , 12	C, E	P	½, ½	Perfection	8, 11	39x2½-56x3	L	Ross	54, 0	W, Schwarz	144	36x3½-36x5	3,600	53, 65	103
104	W, Wisconsin			2, R	.....	.....	.....	½, ½	.....	.....	.....	...	Ross	.....	.....	...	34x3½-36x6	.....	.....	104
105	W, Sheldon, W1501	N	B	2, R	.....	E, E	P, Parish	½, ½	Sheldon	8, 10	39x2½-48x3	L	Gemmer	.....	W, Hoopes	140	36x3½-36x5	3,550	52, 74	105
105a	W, Wisc., 800F	Y	B	2, R	12½, 11	E, E	R	½, ½	SpringPerch	.....	41½x2½-54x2½	L	Ross	51, 0	W, Ames	144	35x5p-38x7p	4,600	55, 85	105a
106	W, Timken, 6460..	Y	B	2, R	10½, 11	E, E	R	½, ½	Mather	8, 11	40x2½-54x3	L	Gemmer	.....	W, Standard	144	36x3½-36x5	3,900	60, 75	106
106a	I, Torbensen			2, R	.....	.....	.....	½, ½	.....	.....	.....	...	.....	.....	.....	146	36x6p-38x7p	4,150	.....	106a
107	W, Timken, 6460..	N	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Perfection	9, 9	36x2½-50x3	L	Ross	56, 0	W, Bimel	151	36x3½-36x6	3,850	51, 78	107
108	W			2, R	.....	E, E	.....	½, ½	.....	.....	.....	...	Ross	.....	.....	144	36x4-36x6	.....	.....	108
109	B, Standard, C	Y	B	2, R	10 , 12	C, E	P	½, ½	Marathon	7, 12	36½x2-50½x3	L	Gemmer	56, 0	W, Moline	130	33x4p-33x4	3,240	60, 70	109
110	I, Torbensen, A	Y	B	2, R	11, 12½	C, E	P, Detroit	½, ½	Detroit	8, 11	36x2½-50x3	L	Jacox	50, 0	W, Bimel	134	36x6p-36x6p	3,200	—, 90	110
111	W, Timken			2, R	.....	E, E	P, Parish & B	½, ½	Spring Perch	.....	.....	L	Ross	.....	W, Crane	140	36x3½-36x5	.....	.....	111
112	W, Sheldon	Y	W	2, R	.....	E, E	R, Own	½, ½	Mather	9, 11	38x2½-50x2½	L	Ross	.....	W, Bimel	136	36x3½-36x5	.....	.....	112
113	W, Own	Y	B	2, R	10½, 10½	F, F	P, Savage	½, ½	Perfection	7, 11	37x2-54x2½	L	Ross	44, 0	W, Prudden	140	34x3½-34x6	3,300	50, 80	113
114	W, Sheldon, W1501	Y	B	2, R	10, 10	E, E	P, Savage	½, ½	Iron City	9, 13	40x2½-54x2½	L	Gemmer	51, 9	W, Jones	144	34x3½-34x5	3,500	50, 70	114
115	W, Wisconsin	Y	B	2, R	10, 12	E, E	P, Own	½, ½	Maremont	7, 9	35x2½-52x2½	L	Lavine	42, 0	W, Crane	126	34x4-34x5	3,280	50, 75	115
116	I, Torbensen			2, R	.....	E, E	P, Detroit	½, ½	Detroit	.....	.....	L	.....	.....	W, Crane	140	35x5-36x6	.....	.....	116
117	W, Wisc., 800H	Y	W	2, R	10, 10	E, E	P	½, ½	Perfection	9, 11	40x2½-48x2½	L	Ross	54, 0	W, Bimel	128	34x5-34x5	4,120	40, 70	117
118	W, Wisc., 800H	Y	W	2, R	.....	E, E	P, Smith	½, ½	Mather	8, 10	40x2½-53x2½	L	Gemmer	.....	W	144	36x3½-36x5	4,000	50, 90	118
118a	I, Torbensen			.....	.....	.....	.....	.....	Own	.....	.....	...	Ross	.....	.....	127	34x3½-34x5	3,725	.....	118a
119	W, Sheldon	Y	B	2, R	11, 11½	E, E	P, Parish & B	½, ½	Penn	9, 9	39x2½-50x2½	L	Ross	.....	W, Prudden	145	35x5p-38x7p	.....	.....	119
120	W, Timken			2, R	.....	.....	P	.....	.....	.....	.....	...	Ross	.....	.....	144	34x3½-36x5	.....	.....	120
121	W, Standard, 603	Y	B	2, R	10⅛, 10	E, E	R, Own	½, ½	Mather	8, 11	41x2½-56x3	L	Ross	.....	W, Prudden	136	34x3½-34x6	3,500	50, 70	121
121a	I, Clark			2, R	.....	.....	.....	½, ½	Detroit	.....	.....	...	Ross	.....	W, Bimel	138	36x3½-36x5	3,600	.....	121a
122	W, Timken, 6560..	N	B	2, R	12½, 9	E, E	P, Detroit	½, ½	Mather	9, 9	40x2¼-54x3	L	Gemmer	46, 3	W, Auto	144	36x3½-36x5	4,250	56, 69	122
123	W, Sheldon			2, R	.....	E, E	R, Own	½, ½	Own	.....	.....	...	Ross	.....	I, Smith	120	36x3½-36x5	.....	.....	123
123a	W, Own			2, R	.....	.....	.....	½, ½	Own	.....	.....	...	Lavine	.....	W, Standard	.....	34x5-34x5	3,200	.....	123a
124	W, Timken, 6460..	Y	W	2, R	12, 10½	E, E	P, Own	½, ½	Tuthill	9, 12	44x2½-52x3	L	Ross	42, 0	W, Prudden	142	36x3½-36x5	3,800	50, 20	124
124a	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	R, Own	½, ½	Tuthill	10, 11	42x2½-54x3	L	Ross	48, 0	W, Western	142	36x3½-36x6	4,700	45, 80	124a
125	W, Sheldon, W-1500	Y	B	2, R	13, 9½	E, E	P, Hydraulic	½, ½	Mather	6, 11	38x2-48x2½	R	Jacox	.....	W, Wayne	138	34x3½-34x5	3,600	55, 75	125
126	W, Timken, 6460..	N	B	2, R	10¾, 9½	E, E	P, Smith	½, ½	Detroit	8, 10	36x2½-54x3	L	Jacox	51, 0	W	130	36x3½-36x5	4,205	55, 74	126
127	I, Torbensen	Y	B	2, R	11, 12½	C, C	P, Detroit	½, ½	Detroit	9, 12	42x2½-52x3	L	Lavine	48, 0	S, Disteel	133	35x5p-36x6p	2,950	.. 80	127
128	I, Clark	Y	B	2, R	11, 11	C, E	P, Own	½, ½	Perfection	10, 11	40x2½-52x2½	L	Ross	51, 0	W, Bimel	138	36x3½-36x5	3,800	69, 90½	128
129	W, Standard	Y	B	2, R	11,	E, E	P, Own	½, ½	Perfection	10, 11	40x2½-52x2½	L	Ross	51, 0	W, Bimel	138	36x3½-36x5	4,200	69, 90½	129
130	I, Torbensen, A	Y	B	2, R	10, 10½	C, E	P	½, ½	Perfection	11, 12	42x2½-50x2½	L	Jacox	45, 0	W, Royer	140	35x5p-38x7p	3.450	47½, 67	130
131	I, Clark			2, R	.....	.....	.....	½, ½	Garden City	.....	.....	...	Wohlrab	.....	W, Royer	142	35x5-35x5	3,200	.....	131
132	W, Sheldon			.....	.....	E, E	P, Own	.....	Sheldon	.....	.....	L	Ross	.....	W, Schwarz	128	34x3½-34x5	.....	.....	132
133	I, Clark			2, R	.....	C, E	R, Own	½, ½	Detroit	.....	.....	L	Ross	.....	W, Bimel	148½	34x3½-34x5	.....	.....	132
133a	W, Sheldon			2, R	.....	.....	.....	½, ½	Perfection	.....	.....	...	Lavine	.....	S, Detroit	130	36x6-36x6	3,100	.....	133a
133b	W, Sheldon			2, R	.....	.....	.....	½, ½	Sheldon	.....	.....	...	Lavine	.....	W, E & O	132	36x4-34x5	3,150	.....	133b
133c	W, Sheldon			2, R	.....	.....	.....	½, ½	Sheldon	.....	.....	...	Ross	.....	N, Schwarz	144	36x4-36x7	4,560	.....	133c
134	I, Torbensen			2, R	.....	E, C	P	½, ½	Perfection	.....	.....	...	Lavine	.....	W	140	34x3½-34x5	.....	.....	134
135	W			2, R	.....	E, E	P	½, ½	Perfection	.....	.....	...	Lavine	.....	W	140	34x3½-34x5	.....	.....	135
136	W, Hindley			2, R	.....	E, C	P, Savage	½, ½	Perfection	.....	.....	...	Ross	.....	W, Wayne	148	34x4-34x5	.....	.....	136
137	I, Torbensen			2, R	.....	C, E	P	½, ½	.....	.....	.....	...	Lavine	.....	W	135	34x3½-34x5	.....	.....	137
139	I, Own		B	2, R	10½, 11½	E, E	P	½, ½	.....	10, 14	41½x2½-56x3	L	Own	.....	W	128	36x3½-36x5	3,400	50, 67	139

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3,000 (Jumbo)—4,000 (Day-Elder) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	3,000 Pounds—Con.																			
140	Jumbo, 15	2,850	Buda, CTU	4	3¾x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast.	Y	M, Fuller	S, 3	Fuller, LTU-5	Y	Arvac	140
141	Kalamazoo, G		Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	141
142	Kearns, N	2,000	Hers'l-Spill. 7000	4	3¾x5-19.6	FS	Pierce	P	B, Bush	N	Zenith	G	M, Berling	N	P, Borg & B	S, 3	Grant-Lees, 515	Y	Peters	142
143	Kelly-Sp'gf'd,K31.(ch'n)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Own	143
144	Kelly-Sp'gf'd,K32.(w'm)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Spicer	144
145	Kissel, General Utility	2,775	Own	4	3¾x5½-24.0	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	145
146	Kleiber, A	3,100	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	146
147	K-Z	2,450	Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Thermoid	147
148	Larrabee, N		Continental, N	4	3¾x5-22.5	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Universal	148
149	Macear, L	2,925	Continental, C4	4	4¼x5½-27.2	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	149
150	Mack, AB(chain)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	150
151	Mack, AB(worm)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	151
152	Mapleleaf, AA		Hinkley, HAA400	4	4x5½-25.6	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LTU5	N	Blood	152
154	Master, JW	2,690	Buda, OU	4	4¼x5½-27.2	S	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Spicer	154
155	Maxwell	1,472	Own	4	3¾x4¼-21.3	S		T	T, Own	N	Eagle	G	B	N	C, Own	S, 3	Own	N	Thermoid	155
156	Menominee, H	2,725	Continental, C4	4	3¾x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU2	N	Spicer	156
157	Moreland, 19B	3,125	Continental	4	4¼x5½-27.2	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	157
158	Myers, 80	1,875	Lycoming	4	3¾x5-19.6	FS	N	P	C, Standard	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees	N	Universal	158
159	Napoleon, 11	1,860	Victory	4	3¾x5-19.6	F	N	P	T, Chicago	Y	Schebler	G	B	N	M, Fuller	S, 3	Fuller, TU1	N	Universal	159
160	National, GA		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	160
161	Nelson & LeMoon, F1½		Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago	Y	Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-L, 35		Thermoid	161
162	Noble, B30		Buda	4		FS	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU			162
163	Norwalk	1,750	Lycoming, K	4	3¾x5-19.6	FS	N		T, Chicago		Carter		B		P, Borg & B	S, 3	Grant-Lees, 515			163
164	O. K., K	2,675	Buda, ITU	4	4¼x5-32.4	FS	Pierce	T	T, R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, TU3		Hartford	164
165	Old Hickory, N	995	Lycoming, K	4	3¾x5-19.6			T	C, Standard	N	Carter		M, Connectic		C, Lycoming	S, 3	Grant-Lees			165
166	Old Reliable, A	2,350	Wisconsin, EU	4	4x5-25.6	F	N	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	166
166a	Orleans	2,700		4	4x5½-25.6	F		P	T	N	Master	G	M, Eisemann	N	M	I, 3	Cotta			166a
167	Packard E C	3,850	Own	4	4x5½-25.6	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Spicer-Th	167
168	Paige, 52-19	2,880	Hinkl'y, HAA400	4	4x5½-25.6	F	Hinkley	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	168
169	Patriot, Lincoln	2,450	Hinkley, HAA400	4	4x5½-25.6	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Fuller, G5	N	Thermoid	169
170	Rainier, R6	2,450	Continental, N	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	170
170a	Ranger, C	2,575	Wisconsin, CAU	4	3¾x5-32.5	FS	Duplex	T	T	N	Zenith	G	M, Dixie	N	M	S, 3	Fuller	N	Universal	170a
171	Reliance, A10	2,500	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU3	N	Peters	171
172	Republic, 11X	2,195	Continental, N	4	3¾x5-22.5	FS	Ruggles	P	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 3	Fuller, TU1	N	Hartford	172
173	Reynolds, 3A	3,250	Hinkley	4	4x5½-26.5	F	Hinkley	P	C, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert	N	Thermoid	173
173a	Rowe, CW	2,800	Wisconsin	4	3¾x5-22.5	F	Simplex	P	C, Fedders		Zenith		M, Bosch		M	S, 4	Brown-L		Spicer	173a
174	Royal	2,800	Wisconsin	4	3¾x5-22.5		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			174
174a	Rumely, A			4	3¾x5½-22.5	FS		P	T			G	M	N	M	S, 3				174a
175	Sandow, CG	2,490	Continental, N	4	3¾x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1	N	Spicer	175
176	Schwartz, B2	2,175	Continental, J4	4	3¾x5-22.5	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	176
177	Seiden, 1½A	2,460	Continental, N	4	3¾x5-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S,	Brown-L, 30	N	Spicer	177
178	Service, 31 (solids)	2,985	Buda, IU	4	4x5½-25.6	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	178
179	Service, 36 (pneumatics)	3,415	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	179
180	Signal, H	2,925	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	180
181	Southern, 15	2,590	Continental, N	4	3¾x5-22.5	FS	Pierce	P	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	181
182	Sterling		Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	182
183	Stewart, 9	1,995	Continental, N	4	3¾x5-22.5	FS	N	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1	N	Hartford	183
184	Stoughton, B	2,350	Waukesha, BUX	4	3¾x5½-22.5	FS	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe, 30		Thermoid	184
185	Sullivan, F	2,350	Buda, M	4	3¾x4¼-22.5	S	N	P	T, Bush	N	Stromberg	G	M, Bosch	N	C, Hartford	S, 3	Covert, GI	N	Hartford	185
186	Texan, TK	1,525	Lycoming	4	3¾x5-19.6	FS	N	P	C, Own		Carter		B		P, Borg & B	S, 3	Muncie			186
187	Tiffin, GW	2,695	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 3	Fuller, GU3	Y	Peters	187
188	Tower, J	3,000	Continental, C4	4	4¼x5½-27.2	FS	N	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N		188
189	Transport, 30	2,250	Continental, N3½	4	3¾x5-22.5	F	Simplex	P	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Hartford	189
190	Traylor, C	2,875	Buda, ITU	4	4x5½-25.6	S	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N		190
191	Triangle, A	2,350	Waukesha, BU4	4	3¾x5½-22.5	FS	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	191
192	Ultimate, A	3,200	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	192
193	United	2,445	Buda	4	3¾x5½-22.5						Stromberg		M		M	S, 3	Brown-Lipe			193
194	Universal, G		Buda	4	3¾x5-22.5		Monarch	P	T, Bremer		Zenith		M, Eisemann		P, Own	S, 3	Own			194
195	U. S., N		Continental, N	4	3¾x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	195
195a	U. S., NW		Continental, N	4	3¾x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	195a
196	Velie, 46	2,200	Continental, N	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Stromberg	G	M, Berling	N	P, Borg & B	S, 3	Durston 034000	N	Arvac	196
197	Victor (Mich.), A		Continental, N	4	3¾x5-22.5	F	N		Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	197
198	Watson, 20		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	T, R'me-T'r'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	198
199	White Hickory, H	2,750	Continental, N	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1	N	Arvac	199
200	Wichita, L	2,600	Waukesha, BX	4	3¾x5½-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4		N	Thermoid	200
201	Wilcox, B		Own	4	4¼x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		201
202	Wilson	2,450	Continental, N	4	3¾x5-22.5	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35		Thermoid	202
203	Winther, 30 (rear drive)	2,450	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1	N	Peters	203
204	Winther, 420 (4-wh'l-dr)	2,850	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Peters	204
205	Wisconsin, B	1,750	Waukesha	4	3¾x5½-19.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			205
206	Witt-Will, N Special	2,150	Continental	4	3¾x5-22.5		Pierce	P	C, Bremer		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	206
207	Wolverine, C		Continental	4	3¾x5-22.5		Monarch	T	T, Long		Stromberg		M, Eisemann	Y	M, Fuller	S, 3	Fuller		Universal	207
	3,500 Pounds:																			
208	Air-O-Flex, C		Buda, CTU	4	3¾x5½-22.5	P	Duplex	F	T, Spirex	N	Stromberg	G	M, Splitdorf	Y	P, Borg & B	S, 4	Brown-L, 35	N	Thermoid	208
209	Oneida, B9	2,915		4	4x5-25.6	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3		N	Peters	209
	4,000 Pounds:																			
210	Acme, A	3,050	Continental, C4	4	4¼x5½-27.2	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, RU	N	Blood	210
211	Ateo, W20	2,875	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Hartford	211
212	Autocar, 21UF	2,300	Own	2	4¼x4-18.0	S	N	P	T, Own	N	Stromberg	G	M, Bosch	N	P, Own	S, 3	Own	N	Spicer	212
214	Beck, C	2,350	Continental	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU3	Y	Blood	214
215	Belmont, C	2,550	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Sterling	215
215a	Bethlehem, G	2,395	Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Universal	215a
216	Brinton, F	3,000	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Mayo	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50		Spicer	216
217	Collier, 20		Continental	4	4¼x5½-27.2		Monarch	P	T		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller			217
218	Conestoga, 30	2,700	Continental, N	4	3¾x5-22.5	FS	Duplex	P	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU3	N	Sterling	218
218a	Cook, 41	3,000	Hercules, CU3	4	4x5½-25.6			P	T, Own			G	M, Berling		P, Borg & B	S, 4			Blood	218a
219	Day-Elder, D	2,750	Continental, C2	4	4¼x5½-27.2	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, RUN3C	N	Hartford	219

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TRUCK SPECIFICATIONS

3,000 (Jumbo)—4,000 (Day-Elder)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (Dual, Pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
140	I, Clark, 1D	Y	B	2, R	11, 13½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	36x3½-36x5	4,350	50, 75	140
141	W, Wisc., 800F	N	W	2, R	9, 9½	E, E	R	½, ½	Sheldon	6, 11	40x2½-50x2½	L	Ross	51, 8	W, Bimel	144	36x4-36x5	5,080	—, 80	141
142	I, Torbensen, B	Y	S	2, R	14, 11	E, E	P	½, ½	Mather	6, 9	42x2½-52x3	L	Lavine		W, E & O	136	34x3½-34x6	3,620	68, 80	142
143	C, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10,11	40½x2½-43½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,590	50, 90	143
144	W, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10 12	40½x2½-47½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,685	50, 90	144
145	W, Sheldon, W-1500	Y	W	2, R	12⅝, 11	E, E	P, Smith	½, ½	Mather	10,11	38x2½-50x2½	L	Jacox	50, 0	W, Prudden	152	36x3½-36x5	4,000	51½, 69	145
146	W, Sheldon, W-103	Y	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W, Waterh'se	143	36x3½-36x6	4,900	50, 75	146
147	W, Timken, 6460	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	7, 9	40x2½-50x3	L	Lavine	30, 2	W, St. M'ry	134	36x3½-36x5	4,000		147
148	W, Sheldon, W-1500	Y	B	2, R	10½, 9½	E, E	P, Savage	½, ½	Merrill	7, 9	38x2½-53x2½	L	Ross		W, Hoopes	130	34x3½-34x5	3,600	36, 88	148
149	W, Timken, 6460	N	B	2, R	10½, 10½	E, E	P, Parish	½, ½	Merrill	7, 12	42x2½-54x2½	L	Ross		S. Dayton	150	36x4-36x6	4,300	—, 70	149
150	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x3½d	4,800	46, 67	150
151	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x3½d	4,900	47, 69	151
152	W, Sheldon, W-103	Y	B	2, R	9, 9½	E, E	R, Own	½, ½	Sheldon		42x2½-50x3	L	Ross		W, Hayes	144	34x4-36x6	4,600	50, 70	152
154	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Detroit	8, 10	44x2-52x2½	L	Ross	42, 0	W, Prudden	142	34x3½-34x5	3,900	55, 78	154
155	W, Own	Y	W	2, R	13, 11	E, E	P	½, ½	Detroit	7, 12	38x2½-52x2½	L	Own	52, 2	W, Kelsey	124	32x3-32x4	2,550	50, 70	155
156	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	144	36x3½-36x5	4,000		156
157	W, Timken, 6456	N	W	2, R	10½, 8½	E, E	P	½, ½	U. S	6, 10	38x2½-48x3	L	Ross	50, 0	I. Smith	126	36x3½-36x5	4,150	50, 65	157
158	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	8, 9	36x2-50x3	L	C.A.S		W, E & O	144	34x3½-34x5	3,200	50, 75	158
159	I, Clark, 1D	N	B	2, R	14, 13	C, C	R, Own	½, ½	Spring Perch	9, 12	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-36x5p	3,400	50, 65	159
160	W, Timken, 6460	Y	W	2, R	10½, 9½	E, E	P	½, ½	Coghlin	7, 10	40x2½-52x3	L	Ross	48, 0	W, Hayes	140	34x4-34x5			160
161	W, Timken, 6552	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x3½-36x6			161
162	W, Sheldon, W-103			2, R		E, E	P, Slick-Knox	½, ½	Tuthill				Lavine		W, Bimel	144	36x3½-36x5	4,680		162
163	W, Chicago, C			2, R		E, E	P, Own	½, ½	Standard				Lavine		W, E & O	130	34x3½-34x5			163
164	W, Wisconsin			2, R		E, E	P, Savage	½, ½	Tuthill				Ross		W, Bimel	146	36x3½-36x5			164
165	B, Salisbury			2, R		C, E	R, Detroit	½, ½	Tuthill				Lavine		W, Bimel	112	33x4-33x4			165
166	W, Sheldon, W21	Y	W	2, R	11, 9½	E, E	P	½, ½	Sheldon	9, 13	39x2½-54x3	R	Ross		W, Prudden	138	34x4-36x6	4,150	—, 90	166
166a	W	N		2, R		E, E	R	½, ½			40x2½-52x3		Ross		I. Smith	142	36x3½-36x5			166a
167	W, Own	N	S	2, R	9⅝, 9½	C, E	R, Own	½, ½		10, 11	41x2½-46x2½	L	Own	50, 0	W	144	34x3½-34x3½d	4,670	46, 67	167
168	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	9, 10	42x2½-52x3	L	Ross		W	140	34x3½-34x5	4,000	60, 75	168
169	W, Empire, N	Y	B	2, R	11, 11½	E, E	P, Detroit	½, ½	Cooper	8, 13	40x2½-52x2½	L	Ross	46, 6	W, Bimel	140	34x3½-34x5	3,900	45, 75	169
170	W, Sheldon, W-1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 14	38x2-50x2½	L	Lavine		W, Schwars	133	34x3-34x4	3,000	75, 75	170
170a	W	N	B	2, R	10, 9	E, E	P, Detroit	½, ½	Perfection	8, 11	40x2½-50x2½	L	Ditweiler	50, 0	W, St. M'rys	136	34x3½-34x5	3,600	40, 70	170a
171	E, Own	Y	W, Powrlok	2, R	10, 11½	E, E	P, Savage	½, ½	Sheldon	8, 11	36x2½-56x2½	L	Ross		W, Bimel	150	36x3½-36x5	4,500	35, 85	171
172	I, Torbensen, C2	Y	W, Powrlok	2, R		E, E	P, Detroit	½, ½	Mather	8, 15	39x2½-52½x2½	L	Jacox		W	144	34x4-34x6	3,300		172
173	W, Sheldon	Y	B	2, R	13½, 10½	E, E	R, Standard	½, ½	Perfection		40x2½-54x2½	L	Lavine		I. Smith	140	36x3½-36x6			173
173a	W, Sheldon			2, R		E, E		½, ½	Sheldon				Ross		W, Hoopes	133	36x6p-36x6p	3,850	—, 62	173a
174	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	128½	34x4-34x5			174
174a	W	Y		2, R		E, E	P	½, ½		9, 11	40x2½-54x3	L			W	144	36x3½-36x5	3,950		174a
175	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage	½, ½	Garden City	7, 12	36x2½-52x2½	L	Ross	54, 0	W, Standard	135	34x3½-34x5	3,900	20, 70	175
176	I, Torbensen, B	Y	B	2, R	10, 11½	C, E	P, Parish	½, ½	Rowland	7, 13	38½x2½-54x3	L	Ross		W, Schwars	140	34x3½-34x5	3,600		176
177	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Perfection	10, 10	40x2½-50x2½	R	Lavine	48, 0	W	137½	34x3½-34x5	3,560	56, 75	177
178	W, Timken, 6460	Y	B	2, R	11½, 9½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	36x3½-36x6	4,850	—, 65	178
179	W, Timken, 6460	Y	B	2, R	11½, 10½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	35x5p-38x7p	4,900	—, 65	179
180	W, Timken, 6460	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	10, 11	44x2½-56x3	L	Ross	53, 0	W, Hayes	144	34x4-36x6	4,760	—, 73	180
181	W, Sheldon	Y	W	2, R			P, Parish & B	½, ½	Mather		38x2½-54x2½	L	Ross		W, Royer	143	34x3½-34x5d			181
182	W, Timken, 6460	N	B	2, R	10½, 10½	E, E	P	½, ½	Mather	8, 10	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x3½-36x5	4,720	47, 91	182
183	I, Clark, 1D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	8, 11	41x24-54x3	L	Ross	49, 0	W, Wayne	140	34x3½-34x5	3,440	56, 70	183
184	W, Sheldon, W-1501	N	W	2, R	11½, 11	E, E	P, Smith	½, ½	Sheldon	9, 11	40x2½-50x2½	L	Lavine	51, 0	W, Bimel	140½	36x3½-36x5	3,800	49, 69	184
185	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	R, Own	½, ½	Merrill	9, 9	38x2-52x3	L	Ross	45, 0	W, Wayne	129	36x3-36x5	3,500	54, 68	185
186	W, Chicago			2, R		E, E	P, Parish & B	½, ½	Maremont				C.A.S		W	144	34x4p-34x5			186
187	W, Sheldon, W102	N	R	2, R	10, 12	E, E	P	½, ½	Kalamazoo	9, 11	40x2-48x2½	L	Ross	47,0	I. Smith	135	36x3½-36x5	3,650	40, 60	187
188	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		42x2½-52x2½	L	Ross		W, Royer	142	35x5p-38x7p	4,520	—, 75	188
189	I, Clark, 1D	Y	B	2, R	11½, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	40x2½-54x3	L	Jacox		W	140	36x3½-36x5	3,450	30, 70	189
190	W, Sheldon, W103	Y	W	2, R		E, E	P, Savage	½, ½			38x2½-50x2½	L	Ross		W, Schwars	138	36x4-36x6	4,700		190
191	I, Clark, 1D	Y	B	2, R	9½, 10	C, C	R, Mason	½, ½	Detroit	9, 11	42½x2½-54x2½	L	Gemmer	47, 6	W, Royer	144	34x3½-34x6	3,750	60, 80	191
192	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P	½, ½	Sheldon	9, 13	39x2½-52x2½	L	Ross	47, 0	W	140	36x3-36x5	4,500	50, 70	192
193	I, Clark			2, R			P	½, ½				L			W	145	34x3½-34x5			193
194	W, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	133	34x3½-34x5			194
195	I, Clark, 1D	Y	B	2, R	11, 12½	C, E	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwars	144	36x3½-36x5	3,800	47, 85	195
195a	W, Sheldon, W1501	Y	B	2, R	11, 12½	C, E	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwars	144	36x3½-36x5	3,800	47, 85	195a
196	I, Torbensen, CT	Y	W, Powrlok	2, R	10½, 12	C, E	P, Dunbar	½, ½	Mather	8, 11	40x2½-54x3		Ross	46, 0	W, Bimel	133	36x3½-36x5	3,650	52½, 85	196
197	I, Clark	Y	B, W	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden	140	-x4—x5	3,250	80, 80	197
198	W, Empire, N	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Sheldon		40x2½-52x3	L	Lavine		W, Crane	144	36x3½-36x5			198
199	W, Timken, 6460	Y	W	2, R	10, 10	E, E	P, Parish & B	½, ½	Sheldon	8, 10	41½x2½-50x3	L	Ross	51, 0	W, Bimel	144	36x3½-36x5	3.750	54, 76	199
200	W, Sheldon	Y	B	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit		40x2½-50x3	R	Ross		W	144	36x3½-36x5	4,100		200
201	W, Wisc., 800E	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 10	40x2½-52x3	L	Own		I. Smith	144	36x4-36x5	4,600	25, 75	201
202	W, Timken, 6460	Y	B	2, R	10½, 10½	E, E	R	½, ½	Perfection	8, 12	38x2½-52x2½	L	Ross		W	140	36x3½-36x5	3,800		202
203	I, Clark, 1D	Y	B	2, R	10, 11½	C, C	R, Own	½, ½	Harvey	9, 12	40x2½-48x2½	R	Lavine	56, 0	I, Own	140	34x3½-34x5	3,600	40, 75	203
204	I, Clark, 1D	Y	B	4, FR	11½, 10½	C, C	R	½, ½	Harvey	9, 12	40x2½-48x2½	L	Lavine	58, 0	I. Own	132	32x4-32x4	4,100	30, 60	204
205	W, Sheldon			2, R		E, E	P, Smith	½, ½					Lavine		W	136	34x3½-34x4			205
206	W, Timken			2, R		E, E	P, Parish	½, ½	Delaney			L	Ross		W, Arch'ld	120	36x3½-36x5			206
207	I, Russel			2, R		C, E	P, Parish & B	½, ½	Tuthill			L	Gemmer		W	140	34x3½-34x5			207
208	I, Russel, P1-300	N	B	2, R	15, 14	E, C	P	½, ½				L	Ross		W	150	36x3½-36x5	4,000	40, 70	208
209	W	Y	B	2, R	10½, 10	E, E	P, Detroit	½, ½	Mather	9, 12	40x2½-56x3	L	Ross		W	144	36x3½-36x6	4,900	60, 85	209
210	W, Timken, 6560	Y	B	2, R	11½, 9½	E, E	P, Smith	½, ½	Detroit	8, 12	40x2½-52x3	L	Ross	54, 0	W, Bimel	148	36x4-36x7	4,450	50, 70	210
211	W, Wisc., 800J	Y	B	2, R	12½, 10½	E, E	P, Parish & B	½, ½	Sheldon	9, 11	41x2½-52x3	L	Ross	61, 2	I, Smith	150	36x4-36x7	4,800	53, —	211
212	S, Own	Y	B	2, R		C, E	P	½, ½	T			R	Own		W	97		3,600		212
214	I, Clark, 2	N	S	2, R	14, 13	C, E	P, Parish & B	½, ½	Higgins	8,13	40x2½-52x3	L	Lavine	48, 0	W, Bimel	144	36x7-40x8	3,800	80, 75	214
215	I, Clark, 2	N	B	2, R	11, 11	C, E	R, Savage	½, ½	Mather	9, 12	40x2½-52½x3	L	Lavine	52, 0	S. Clark	154	36x4-36x7	4,000	50, 80	215
215a	I, Russel, PI300	Y	B	2, R	10½, 11½	C, E	P, Detroit	½, ½	Mather	9, 10	40x2½-52½x3	L	Lavine	48, 0	W, Wayne	135	34x3½-34x6	4,450	—, 90	215a
216	W, Timken, 6560	N	W	2, R	11½, 9½	E, E	R, Own	½, ½	Philadelphia	12, 14	44x2½-50x3	L	Ross	40, 0	W, Schwars	150	36x4-36x6	4,500	45, 70	216
217	W			2, R		E, E	R	½, ½					Ross			152	36x4-36x7			217
218	W, Wisc., 800C	Y	W	2, R	11, 10	E, E	R, Own	½, ½	Iron City	9, 12	40x2½-52x3	L	Ross	50, 0	W, E & O	138	36x4-36x4d	4,200	50, 70	218
218a	I, Kennedy			2, R			P	½, ½	Perfection				Lavine		W, St. M'rys	152	36x6-38x7p	5,000		218a
219	W, Sheldon, W103	Y	B	2, R	11, 10½	E, E	P, Savage	½, ½	Iron City	10, 15	40x2½-54x2½	L	Gemmer	51, 9	W, Jones	144	36x4-36x7	4,250	50, 70	219

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4,000 (Dearborn—Wolverine) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and make number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	4,000 Pounds—Con.																			
220	Dearborn .48	2,590	Buda	4	3¼x5½-22.5	F	Simplex	T	T. Chicago	Y	Stromberg	G	M. Bosch	N	M. Fuller	S. 3	Fuller	N	Hartford	220
221	Defiance, E	2,750	Own	4	3¼x5-22.5		N	P	C, Perfex		Stromberg			Y	P. Borg & B	S. 3	Grant-Lees			221
222	DeKalb, E2	2,250	Continental	4	4¼x5½-27.2		N	P	T, Jackson		Master		M. Eisemann		M. Fuller	S. 3	Fuller		Hartford	222
223	Denby, 134	2,800	Continental, N	4	3¼x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M. Eisemann	N	M. Fuller	S. 4	Fuller, GU	N	Universal	223
224	Diamond T, U	2,835	Hinkley	4	4x5½-25.6	F	Unit Mot	P	T, G & O	N	Stromberg	G	M. Bosch	N	M, Covert	S. 4	Covert	N	Spicer	224
225	Dorris, K4	3,400	Own	4	4¼x5½-28.9	F	Own		T, McCord	Y	Stromberg	G	M. Bosch	N	M. Warner	S. 4	Warner, T53	N	Spicer	225
225a	Douglas, H (int.)	2,800	Buda	4	4¼x5½-27.2	F	Pierce	P	T, Own		Schebler		M. Eisemann		M. Fuller	S. 3	Fuller		Arvac	225a
225b	Douglas, H (worm)	3,000	Buda	4	4¼x5½-27.2	F	Pierce	P	Own		Schebler		M. Eisemann		M. Fuller	S. 3	Fuller		Arvac	225b
225c	Duty	1,490	Victory	4	—-34.6	FS	N	T	C	N	Zenith	G	M. Simms	N	M. Covert	S 3	Covert	N		225c
225d	Eagle	1,995	Buda, CTU	4	3¼x5½-22.5	F		P	C	N	Zenith	G	M. Eisemann	N	M, Covert	S, 3	Covert		M & E	225d
226	Erie			4	4¼x5½-27.2				T		Stromberg		M. Bosch		M	S, 4				226
227	Fargo, P	2,250	Continental, N	4	3¼x5-22.5	FS	Monarch	T	T, Own	N	Rayfield	G	M. Bosch	N	M. Fuller	S, 4	Fuller, GU	N	Spicer	227
228	Federal, UE	3,025	Continental, C4	4	4¼x5½-27.2	S	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit	N	Spicer	228
229	Forschler, B	2,750	Continental	4	4¼x5½-27.2		Duplex	P	T, Own		Zenith		M. Bosch		M. Fuller	S. 3	Fuller		Own	229
230	Fulton, C	2,350	Herschell-Spill	4	3¼x5-19.6		Pierce	P	T, G & O		Carter		M. Simms	N	M, Covert	S, 3	Covert		Universal	230
231	Gabriel, E	3,250	Buda	4	4¼x5½-28.9		Duplex	P	C, G & O		Rayfield		M. Bosch	N	P. Borg & B	S, 4	Brown-Lipe		Spicer	231
232	Garford, 70H	3,190		4	4¼x5½-28.9	F	Simplex	P	T, Own	N	Rayfield	G	M. Splitdorf	N	M	S, 4		N		232
233	Giant, 16	3,050	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	C, Own	Y	Schebler	G.K	M. Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	233
234	GMC, 41A		Continental, C2	4	4¼x5½-27.2	FS	Monarch	P	T, Own	N	Marvel	G	M. Eisemann	N	M, Own	S, 4	Own	N	Own	234
235	Gramm-Bernstein, 20	3,175	Continental, C2	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Stromberg	G	B, North East	N	M, Fuller	I, 4	Own	N	Own	235
235a	G. & J	3,850	Continental	4	4x5½-25.6	F	N	P	T	Y		G	M. Bosch	N	M	S, 4		Y		235a
236	Hal-Fur, D	2,250	Hinkley, HA400	4	4x5½-25.6	F	Hinkley	P	T, G & O		Strombreg	G	M. Bosch		P, Borg & B	S, 4	Brown-L		Peters	236
237	Hall	2,875	Continental, C4	4	4¼x5½-27.2	FS	Simplex	P	T, Long	Y	Zenith	G	M. Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	237
237a	Hawkeye, M	2,915	Buda	4	4¼x5½-28.9		Simplex	P	T, Ideal		Zenith		M. Eisemann		M, Fuller	S 4	Fuller		Hartford	237a
238	Hendrickson	3,000	Buda, BU4R	4	4¼x5½-28.9	S		P	T, Chicago		Stromberg		M, Dixie		M. Fuller	S, 4	Fuller			238
238a	H & M, 2		Hercules	4	3¼x5-19.6	FS		T	T, G & O		Carter	G	M. Bosch		M. Fuller	S. 4	Fuller		Thermoid	238a
239	Independent (Iowa), F	2,490	Continental	4	4¼x5½-27.2		N	P	C, Chicago				M. Bosch	N	M. Fuller	S, 3	Fuller		Blood	239
240	Independent (Ohio), G	2,300	Continental	4	4¼x5½-27.2		Monarch	P	T, Long		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	240
240a	Indiana, 20	2,950	Own	4	4¼x5½-27.2	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Brown-L, 35	N	Acme	240a
241	International, G	2,800	Own	4	4x5-25.6	FS	Own	T	T, Long, McC	Y	Ensign	G	M. Dixie	N	M, Own	S, 3	Own	Y	Own	241
242	Jumbo, 20	3,100	Buda, CTU	4	3¼x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast	Y	M. Fuller	S, 3	Fuller, LTU5	Y	Arvac	242
242a	J & J	3,200	Wisconsin, EAU	4	4x5-25.6	F	Monarch		T, Chicago	Y	Zenith	G	Swiss	N	P	I, 4	Cotta, RU	N	Universal	242a
243	Keldon, 19	2,885	Buda	4	4¼x5½-28.9		Waukesha	P	C, Eureka		Stromberg		M, Eisemann		P, Borg & B	S, 3	Covert		Acme	243
244	Keystone, 40	1,795	Own	4	4x4½-25.6			P	T, McCord		Zenith		M, Berling	N	M, Fuller	S, 3	Fuller		Spicer	244
245	Kimball, B	3,675	Wisconsin, TU	4	4x6-25.6	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	245
246	Kleiber, BB	3,600	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	246
247	Lange, B	2,950	Continental	4	4¼x5½-27.2		Pierce	P	T, Own		Stromberg		M, Bosch	N	M, Hele-Shaw	I, 3	Own		M & E	247
247a	Luedinghaus, K	2,790	Waukesha, RU4R	4	4¼x5½-28.9	F	Waukesha	P	T, Own	N	Schebler	G	M, Splitdorf	N	P, Borg & B	S, 3	Detroit		Spicer	247a
247b	Luverne, BBL		G, B & S	4	3¼x4½-22.5	S		P	C		Schebler	G	M, Bosch		M	S, 3	Detroit		Uni. Prod	247b
248	Mack, AB (chain)	3,300	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	248
249	Mack, AB (worm)	3,300	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	249
249a	Marshall, 2			4	3¼x5-19.6			T				G			P, Borg & B	S, 3				249a
250	Menominee, D	3,245	Continental, C4	4	4¼x5½-27.2	S	Monarch	P	T, Own	N	Stromberg	G	M, Eisemann	N	M. Fuller	S, 4	Fuller, GU	N	Spicer	250
251	Midland, MT	3,000	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Chicago		Stromberg		M. Eisemann		M, Fuller	S,	Fuller, JU2			251
252	Muskegon, 20	2,325	Continental	4	4¼x5½-27.2		Pierce	P	C, Mayo		Detroit		M, Eisemann	N	M, Fuller	S, 3	Fuller		Arvac	252
253	Mutual, 2A	3,375	Wisconsin, TAU	4	4x6-25.6	F	Duplex	P	C, Perfex	N	Stromberg	G	M. Bosch	Y	M, Hele-Shaw	S, 4	Fuller, G5	N	Spicer	253
254	Nash, 3018	2,550	Own	4	3¼x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 4	Detroit, H36	N	Own	254
255	Nash, 4017 Quad	3,250	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Own	N	Own	255
256	National, HA		Waukesha RU4K	4	4¼x5½-28.9	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 35	N	Spicer	256
257	Netco, D	3,400	Continental, C4	4	4¼x5½-27.2	S	N	P	T, R'me-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Hartford	257
258	Niles, (Pa.), E	2,800	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	C, Modine	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, O		Blood	258
259	Noble, C40		Buda	4	4x5½-25.6		Pierce	P	C, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		M & E	259
260	Northway, B2	3,400	Own	4	4x6-25.6	FS	Pierce	P	C, G & O	Y	Stromberg	G	B	Y	M, Fuller	S, 4	Fuller, GU6	N	Spicer	260
261	Northwestern, WT	3,300	Continental, C4	4	4¼x5½-27.2	S		P	C, Mayo		Stromberg	G	M, Bosch		C, Hartford	S, 3	Covert		Blood	261
262	Olympic, A	3,300	Continental, C4	4	4¼x5½-27.2	FS	Monarch	P	T, Long		Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	262
263	Oshkosh, A	3,750	Hers'l-Spill, 7000	4	3¼x5-19.6	FS	Duplex	T	C, Own	N	Zenith	G	B	Y	M, Brown-L	S, 4	Brown-L, 35	Y	Peters	263
265	Palmer	2,277	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	C, Fedders		Stromberg		M, Bosch		M, Fuller	S, 3	Fuller			265
267	Parker, F20		Wisconsin, TAU	4	4x6-25.6	F	Monarch	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Fuller, G	N	Blood	267
268	Pierce-Arrow, X4	3,750	Own	4	4x5½-25.6	F	Own	P	T, Own	N	Own	G	M, Splitdorf	N	C, Own	S, 4	Own	N	Own	268
269	Pioneer, F	2,790	Continental	4	4¼x5½-27.2		Pierce	P	T, McCord		Stromberg		M, Eisemann	N	M, Brown-L	S, 4	Brown-L		Spicer	269
270	Power, B	2,950	Continental, C2	4	4¼x5½-27.2	FS	Pierce	P	C, Candler	N	Stromberg	G	M, Simms	N	M, Fuller	S, 4	Fuller		Universal	270
271	Rainier, R8	2,900	Continental, N	4	3¼x5-22.5	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 30	Y	Hartford	271
272	Rowe, CDW	3,300	Wisconsin	4	4x5-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	272
273	Royal	3,200	Wisconsin	4	4x6-25.6		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own	N		273
274	Sandow, I	2,575	Continental, N	4	3¼x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Fuller, TU		Spicer	274
275	Schacht	3,550	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 3	Own	N	M & E	275
276	Shaw, M3	2,700	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Long		Zenith		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			276
277	Southern, 20	2,990	Buda, ITU	4	4x5½-25.6	FS	Pierce	P	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	277
279	Sterling		Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L 35	N	Spicer	279
280	Stewart, 7	2,495	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Hartford	280
281	Stoughton, D	2,800	Hercules, CU3	4	4x5½-25.6	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 35		Thermoid	281
282	Sullivan, E	3,350	Buda, HTU	4	4¼x5½-28.9	S	N	P	T, Bush	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	282
283	Superior, E	2,750	Continental, C2	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Arvac	283
284	Traffic, C	1,495	Continental, N	4	3¼x5-22.5	FS	N	T	C, Own	N	Carter	G	M, Bosch	N	M, Covert	S, 3	Covert, MU-T	N	Universal	284
285	Transport, 50	2,785	Continental, C2	4	4¼x5½-27.2	FS	Duplex	P	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	Hartford	285
286	Triangle, C	2,700	Waukesha, BU4	4	3¼x5½-22.5	S	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	286
287	Triumph, H	2,850	Buda, CTU	4	3¼x5½-22.5	FS	Pierce	P	C, Modine	Y	Bennett	G	M, Dixie	N	P, Borg & B	I, 3	Cotta, AAU	N	Hartford	287
287a	Twin City, 2(Minn'p'l's)		Buda, ITU	4	4x5½-25.6	F	Simplex	P	C, Spirex		Schebler	G	M, Bosch		M, Fuller	S, 3	Fuller		Arvac	287a
287b	U. S., N. C		Continental, N	4	3¼x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	287b
287c	U. S., NP		Continental, N	4	3¼x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	287c
288	Universal, D		Own	4	4¼x5½-28.9		Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			288
289	Victor (Mich.), B		Continental, N	4	3¼x5-22.5	F	N		C, Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	289
290	Vim, 22	3,150	Hercules	4	3¼x5½-22.5	F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	290
290a	Wells, C1	2,800	Weidely	4	4¼x5½-27.2	FS	Monarch	P			Stromberg	G	M, Berling		M	I, 4	Cotta		Acme	290a
291	White, 20	3,450	Own	4	3¼x5½-22.5	FS	N	P	C	N	Own	G	M		P, Own	S, 4	Own	N	Own	291
292	Wichita, M	2,800	Waukesha, BX	4	3¼x5½-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4		N	Thermoid	292
293	Winther, 49	3,250	Wisconsin, EAU	4	4x5-25.6	F	N	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	293
293a	Wolverine,, D		Continental	4	3¼x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller			293a

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TRUCK SPECIFICATIONS

4,000 (Dearborn—Wolverine)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
220	W, Wisconsin	Y	B	2, R	10½, 12	E, E	R, Own	½, ½	Maremont	7, 11	41½x2½-48x3	L	Ditweiler	49, 4	W,Crane	148	34x4½p-34x7	3,500	50, 80	220
221	I, Torbensen			2, R		E, E	P, Detroit		Detroit			L	Own		W,Crane	140	35x5p-38x7			221
222	W, Timken			2, R		E, E	P, Parish					L	Ross		W, Schwars.	134	34x3½-36x5			222
223	J, Russel, 3-201	Y	B	2, R	12, 13	C, E	P, Detroit	½, ½	Detroit	8, 13	44x2½-52x3	L	Ross	57, 1	W, Hayes	144	36x3½-36x6	3,950	50, 75½	223
224	W, Timken, 6560	Y	W	2, R		E, E	P, Smith	½, ½	Mather	9, 12	40x2½-53x2½	L	Gemmer		W	160	36x4-36x7	4,800	50, 90	224
225	W, Timken, 6552	Y	W	2, R	11½, 9½	E, E	P, Smith	½, ½	Rowland	9, 15	42x2½-56x3	L	Ross	60, 0	I, Smith	144	36x4-36x7	5,050	86. 70	225
225a	I, Torbensen			2, R					Own				Ross			128	36x4-36x7	3,900		225a
225b	W, Wisconsin			2, R					Own				Ross			128	36x4-36x7	3,900		225b
225c	I, Russel			2, R	—, 12	E, C	R	½, ½				L		53, 0	W	134	34x3½-34x5	3,350		225c
225d	I, Russel	Y		2, R				½, ½		8, 16		L	Lavine		W	130	34x3½-34x6	4,100		225d
226	W, Timken			2, R			P				40x2½-54x3		Ross	50. 9		144	34x3½-36x5			226
227	I, Russel, U	Y	B	2, R	10, 12	E, C	R, Own	½, ½	Sheldon			L	Jacox		W	140	36x4-36x6	4,200	85, 80	227
228	W, Timken, 6560	N	B	2, R	12½, 9	E, E	P, Detroit	½, ½	Mather	9, 13	40x2½-54x3	L	Gemmer	50,9	W, Auto	156	36x4-36x7	4,800	60. 71	228
229	W, Sheldon			2, R		E, E	R, Own					L	Ross		I, Smith	144	36x4-36x7			229
230	I, Russel			2, R		C, C	P, Parish & B	½, ½	Rowland			L	Lavine	48, 0	W, E & O	137	34x4-34x6			230
231	W, Timken			2, R		E, E	P, Parish		Merrill			L	Gemmer		W, Standard	156	36x4-36x7			231
232	W	Y	B	2, R		E, E	P	½, ½		9, 11	42x2½-50x2½	L	Ross	57, 0	W	144	36x4-36x7	4,590		232
233	W, Sheldon, W103	Y	B	2, R	12½, 10½	E, E	P, Hydraulic	½, ½	Mather	8, 10	40x2½-56x3	R	Ross		W, Wayne	168	36x4-36x7	4,500	55, 75	233
234	W, Timken, 6560	N	B	2, R	12½, 9½	E, E	P Smith	½, ½	Detroit	8, 10	40x2½-54x3	L	Jacox		S, Own	144	36x4-36x7	4,855	53, 74	234
235	W, Sheldon, W103	Y	B	2, R	11, 10½	E, E	P, Own	½, ½	Perfection	11, 12	40½x2½-52x2½	L	Ross	51. 0	W, Bimel	144	36x4-36x7	5,100	72, 91	235
235a	W	Y		2, R		E, E	R	½, ½			40x2½-54x3	L			W	146	36x4-36x7	4,900		235a
236	W, Timken			2, R				½, ½	Perfection				Gemmer		W, Standard		35x5p-35x5p	3,400		236
237	W, Timken, 6552	Y	W	2, R	12. 9	E, E	R	½, ½	Perfection	9, 12	40x2½-54x3	L	Gemmer		I, Smith	156	36x4-36x4	4,825	25. 80	237
237a	I, Clark			2, R		C, E	R, Own	½, ½	Detroit			L	Ross		W, Bimel	148½	36x4-36x6			237a
238	W, Timken			2, R					Tuthill				Ross		W	140	36x4-37x7			238
238a	I, Torbensen			2, R				½, ½	Mather				Lavine			144	34x4-38x7p	3,400		238a
239	I, Russel			2, R		C, E	R, Own		Garden City			L	Lavine		W, Prudden	146	34x4-34x6			239
240	W, Wisconsin			2, R		E, E	P, Parish & B		Iron City			L	Ross		S.Indestruct	144	34x4-34x6			240
240a	W, Sheldon, W-103	N	B	2, R	12½, 10½	E, E	R	½, ½	Sheldon	9, 11	40x2½-50x3	L	Wohlrab	48, 0	W, Bimel	150	36x4-36x7	5,360	58, 68½	240a
241	I, Own		B	2, R	10½, 12	E, E	P	½, ½		10, 14	39½x2½-55½x3	L	Own		W	138	36x4-36x6	4,060	50. 68	241
242	I, Clark, 1D	Y	B	2, R	11. 15½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	35x5p-38x7p	4,510	50. 75	242
242a	I, Russel	Y	B	2, R	11, 11	C, E	R, Own	½, ½	Mather	8, 12	34x2½-40x3	L	Lavine	48, 0	W, Bimel	134	34x4-34x6	4,000	45, 80	242a
243	I, Russel			2, R		C, E	R, Own	½, ½	Champion			L	Ross		I, Smith	144	36x4-36x7			243
244	I, Russel			2, R		E, E	R, Own		Rowland			L	Ross		W, Wayne	144	34x4½p-36x5			244
245	W, Sheldon, W102	Y	B	2, R		E, C	P, Parish	½, ½	U. S	10, 11	40½x2½-47x2½	L	Ross	39, 6	W, Weston		36x6p-36x7		50, 80	245
246	W, Timken, 6560	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W,Waterb'se	150	36x4-36x7	5,300	50, 75	246
247	C, Own			2, R		C, E	R, Own		Standard			L	Gemmer		W, Hoopes	136	36x4-36x6			247
247a	W, Wisconsin, J	N	B	2, R	10½, 10½	E, E	P, Parish & B	½, ½	Tuthill	9, 12	42x2½-54x3	L	Lavine		W, Bimel	145	36x4-36x7	4,400	—, 80	247a
247b	I			2, R				½, ½					Lavine		W, Own	136	34x4p-34x5			247b
248	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W, Schwars.	Opt.	36x4-36x4d	4,900	47, 70	248
249	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W. Schwars.	Opt.	36x4-36x4d	5,000	48, 70	249
249a	W			2, R				½, ½								132	34x5-34x5			249a
250	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	160	36x4-36x4d	4,700		250
251	W, Timken, 6552			2, R		E, E	R, Own	½, ½					Ross		I, Smith	144	36x4-36x4d			251
252	I, Torbensen			2, R		C, E	P, Parish & B	½, ½	Sheldon			L	Lavine		W. Prudden	144	36x4-36x6			252
253	W, Sheldon, W21	N	B	2, R	11, 9½	E, E	P, Parish & B	½, ½	Mather	8, 10	41x2½-56x3	L	Ross	52, 0	I, Smith	152	36x4-36x8	5,800	40, 71	253
254	I, Clark, 2D	Y	W	2, R	9½, 9½	C, C	P, Own	½, ½	Alloy	10, 12	37½x2½-52x2½	L	Jacox	50, 0	W, Auto	144	34x4-34x6	3,850	51, 73½	254
255	I, Own	Y	W	4, FR	14½, 14½	E, C	P, Own	½, ½	Mather	9, 8	48x2½-48x2½	L	Lavine	50, 0	S	124	36x5-36x5	6,250	33½, 55	255
256	W, Timken, 6560	N	W	2, R	10½, 9	E, E	R	½, ½	Mather	9, 11	40x2½-54x3	L	Ross	26, 0	W, Hayes	141	34x4-34x4d	5,000		256
257	W, Timken, 6560	Y	B	2, R	12, 11	E, E	P	½, ½	Perfection	8, 12	39x2½-49x3	L	Ross		W, Arch'ld	168	36x4-36x7	4,940	57, 65	257
258	W, Timken, 6550	N	W	2, R	11, 9	E, E	P, Savage	½, ½	Iron City	9, 14	45x2½-53x3	L	Gemmer		W, Hoopes	140	36x4-36x7	4,600		258
259	W, Sheldon			2, R		E, E	P, Slick-Knox	½, ½	SpringPerch			L	Lavine		W, Bimel	148	36x4-36x7	4,900		259
260	W, Sheldon, W21	Y	B	2, R	14, 9	E, E	P, Parish & B	½, ½	Perfection	9, 10	42x2½-54x3	L	Ross	50, 0	S, Clark	146	36x4-36x4d	5,300	58½, 77½	260
261	W, Sheldon			2, R				½, ½	Sheldon				Ross			164	34x4-36x7	4,900		261
262	W, Timken, 6560	N	B	2, R	10, 10	E, E	P, Savage	½, ½	Mather	7, 12	39x2½-50x3	L	Ross		W.St. M'r'y	158	36x4-36x7	4,850		262
263	B, Own	Y	B	4, FR	10½, 10½	C, C	P, Smith	½, ½	Tuthill	10, 11	50x2½-54x2½	L	Ross	52, 0	W. Bimel	130	36x6p-36x6p	4,200		263
265	W, Own			2, R		E, E	P, Own	½, ½	Tuthill				Ross		W, Bimel	150	34x4-36x4d			265
267	W, Own,	N	B	2, R	9½, 10	C, E	P, Smith	½, ½	Tuthill	8, 12	51x3-60x3	L	Ross	56, 0	W, Bimel	150	34x4-36x4d	5,200	51, 71	267
268	W, Own	N	S	2, R	13, 9½	C, E	P, Parish	½, ½	Spring Perch	10, 13	41x2½-54x3	R	Own	42, 0	W. Own	150	36x4-36x4d	6,250	60, 75	268
269	W, Timken			2, R		E, E	P, Parish					L	Ross		S. Budd	144	36x4-36x7			269
270	W, Timken	Y		2, R		E, E	R, Own	½, ½	Detroit		44x2½-56x3	L	Ross		W, Hayes	150	36x4-36x4d			270
271	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P, Parish	½, ½	Perfection	9, 12	38x2½-50x2½	L	Ross		W, Schwars.	147	34x5-34x6	3,450	75, 75	271
272	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	140½	34x4-36x3½d	4,500	—, 62	272
273	W, Timken			2, R		E, E	R, Own		Merrill				Ross			132	36x4½-36x6			273
274	I, Torbensen, C2	Y	B	2, R	13, 13½	C, E	P, Savage	½, ½	Garden City	8, 12	38½x2½-54x3	L	Ross	60, 0	W, Standard	150	36x4-36x6	4,300	20, 70	274
275	W, Own	N	B	2, R	11, 9	C, E	R, Own	½, ½	National	9, 14	35x2½-50x3	L	Own		W,St.M'rys.	156	36x4-36x7	5,500	—, 70	275
276	W, Timken			2, R			P, Smith		Perfection				Gemmer		W	153	36x4-36x6			276
277	W, Sheldon	Y	W	2, R			P, Parish & B		Mather		38x2½-54x2½	L	Ross		W, Royer	157	35x3-35x5			277
279	W, Timken, 6560	N	B	2, R	12½, 10	E, E	P, W	½c ½c	Mather	8, 11	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x4-36x6	5,000	45, 97	279
280	I, Clark, 2D	Y	B	2, R	10, 10	C, C	P, Hydraulic		Detroit	9, 12	41x2½-54x3	L	Ross	50, 0	W, Wayne	156	34x4-34x7	4,460	59 72	280
281	W, Sheldon, W103	N	W	2, R	12½, 10½	E, E	P, Detroit	½, ½	Sheldon	9, 12	40x2½-50x3	L	Lavine	51, 0	W. Bimel	140½	36x4-36x7	4,000	49, 6	281
282	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	Parish & B	½, ½	Sheldon	9, 11	40x2½-52x3	L	Ross	52 0	W Wayne	150	36x4-36x7	4,750	53, 71	282
283	I, Torbensen, CE	Y	B	2, R	13, 13	C, E	P	½, ½	Tuthill	8, 13	38x2½-51x3	L	Ross	46, 0	W, Schwars.	144	36x4½-36x6	3,600	75, —	283
284	I, Russel, PI-302	Y	B	2, R	11, 12	C, E	R, Own	½, ½	Detroit	9, 10	36½x2-46x2½	L	Own	48, 6	W, Bimel	132	34x3½-34x5	3,175	42, 85	284
285	I, Clark, 2D	Y	B	2, R	10½, 11½	C, E	P	½, ½	Detroit	9, 13	40x2½-54x3	L	Jacox		W	150	36x6p-40x8p	4,250	50. 70	285
286	I, Clark, 2D	Y	B	2, R		C, C	R, Mason	½, ½	Detroit	10, 12	42½x2½-54x3	L	Gemmer	56, 0	W, Royer	147	36x4-36x6	4,200	60, 80	286
287	I, Russel, P-300	Y	B	2, R	12, 13½	C, E	R	½, ½	Higgins	9, 11	36x2½-50x2½	L	Lavine	46, 0	W, Standard	144	36x3½-36x5	4,200	40, 70	287
287a	I, Clark			2, R				½, ½	Mather				Ross		W, Bimel	150	36x6p-40x8p	4,800		287a
287b	I, Clark, 1D	Y	B	2, R	11, 12½	E, C	P	½, ½	Sheldon	9, 10	38½x2½54x2½	L	Lavine	50, 0	W, Schwars	144	35x5p-38x7p	3,800	47,85	287b
287c	W, Sheldon, W1501	Y	B	2, R	11, 12½	E, C	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwars.	144	35x5p-38x7p	3,800	47, 85	287c
288	C, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	132	36x5-36x4d			288
289	I, Clark	Y	BW	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden	140	—x4—x5	3,250	80, 80	289
290	W, Sheldon, W102	Y	W	2, R	12½, 10	E, E	P	½, ½	Sheldon	9, 12	42x2½-56x3	L	Gemmer	37, 10	I. Smith	142	36x4-36x6	4,700	40, 70	290
290a	I			2, R				½, ½					Lavine		I. Smith	168	36x4-36x8	4,400		290a
291	B, Own	N	B	2, R	10½, 9	C, E	P	½, ½				L	Own	60, 0	W	157½	36x4-36x7	4,150	54, 70	291
292	W, Sheldon	Y	B	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit		40x2½56x3	R	Ross		W	144	36x3½-36x6	4,400		292
293	I, Clark, 2D	Y	B	2, R	12, 11	C, C	R, Own	½, ½	Mather	8, 10	46x2½-56x3	R	Ross	60, 0	I. Own	147	34x4-34x4d	5,300	45, 80	293
293a	I, Russel	Y		2, R			P	½, ½			40x2½-54x3				W	144	34x4-34x3½d			293a

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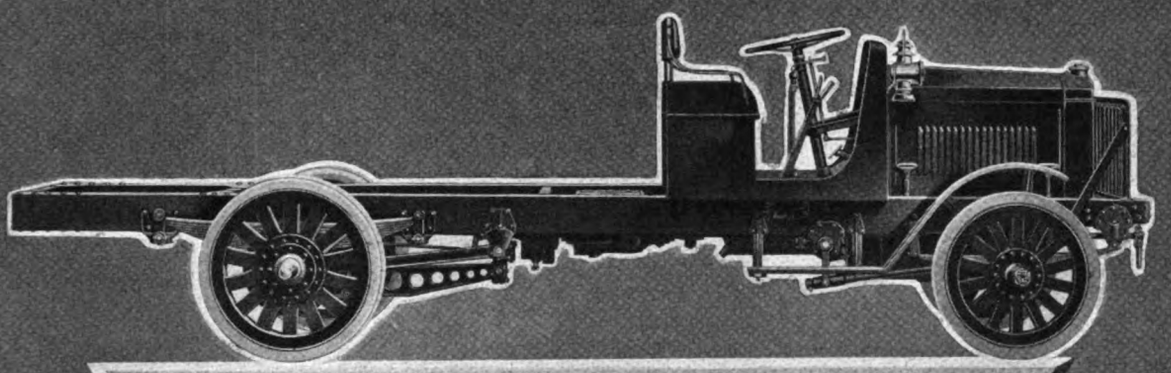

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	5,000 Pounds:																			
294	Acason, H	3,500	Waukesha, CU	4	4¼x5½-30.6	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Detlaff, H5	I, 4	Cotta, R	Y	Blood	294
295	Ace, A	3,450	Buda, HU	4	4¼x5½-28.9	FS	Pierce	P	C, Modine	Y	Schebler	G	B, West'gh'se	Y	M, Fuller	S, 4	Fuller	N	M & E	295
295a	Aetna	3,375	Wisc., UAU	4	4¼x6-28.9	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, R	N	Spicer	295a
295b	All-American	2,395	Herschell-Spill'n	4	3¼x5 -19.6	FS		P	T		Stromberg	G	M, Simms		M	I, 4	Cotta			295b
295c	American	3,575	Wisconsin	4	4x6-25.6	F	Pierce	P	T, G & O		Stromberg	G	M, Eisemann		M, Detroit	S, 3	Covert		Acme	295c
296	Apex, E	2,695	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	C, G & O	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	296
297	Armleder, HW		Buda, HTU	4	4¼x5½-28.9	F		P	T, Long	N	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	297
298	Atterbury, 7CX	3,375	Continental, C4	4	4¼x5½-27.2	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	298
299	Available, H2½	3,475	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Ther.-Sp.	299
300	Beck, D	3,500	Continental	4	4¼x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	300
301	Bell	2,750	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit	Y	Universal	301
302	Bessemer, J2	3,285	Continental, C2	4	4¼x5½-27.2	S	Pierce	P	C, Standard	Y	Rayfield	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 50	N	Arvac	302
303	Bets, D2	2,785	Buda, HU	4	4¼x5½-28.9	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4		N	Peters	303
304	Bridgeport, 2½B	2,850	Buda, HTU	4	4¼x5½-28.9	FS	Pierce	P	Own		Stromberg	G	M, Eisemann		P, Borg & B	S, 4			Hartford	304
305	Brockway, K4	3,200	Continental, C2	4	4¼x5½-27.2	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	305
305a	Capital, H2½	3,450	Wisc., UAU	4	4¼x6 28.9	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Detlaff	I, 4	Cotta	N	Thermoid	305a
306	Chicago, C2½	2,800	Hercules, CU3	4	4x5½-25.6	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Peters	306
307	Clydesdale, 65C	3,777	Own	4	4¼x5½-29.0	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	307
307a	Clydesdale, 65EC		Own	4	4¼x5½-32.4	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	307a
308	Columbia, G	2,850	Hinkley, 400	4	4x5½-25.6	F	Hinkley	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, RA3	N	Spicer	308
309	Concord, B	2,850	Buda	4	4¼x5½-28.9		Monarch	P	T, Bush		Zenith		M, Eisemann		M, Brown-L	S, 3	Brown-Lipe		Spicer	309
309a	Corbitt, B	3,650	Continental	4	4¼x5½-27.2	FS	Simplex	P	T, Long		Stromberg	G	M, Eisemann		M, Brown-L	S, 4	Brown-L		Hartford	309a
310	Dart, M	3,000	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Spicer	310
311	Day-Elder, C	2,950	Buda, TU	4	4¼x5½-28.9	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, RU3C	N	Hartford	311
312	DeKalb, E2½	2,600	Continental	4	4¼x5½-27.2		N	P	T, Jackson		Master		M, Eisemann	N	M, Fuller	S, 3	Fuller		Hartford	312
314	Dependable, E	2,950	Buda, HTU	4	4¼x5½-28.9	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 4	Fuller, G5	N	Acme	314
315	Doane	3,750		4	4¼x5½-28.9	FS		P					M, Bosch		M	S, 3	Brown-Lipe			315
316	Erie		Continental	4	4¼x5½-27.2		Pierce	P	T		Stromberg		M, Bosch		M	S, 4				316
317	Fageol	3,900	Waukesha, RU4R	4	4¼x5½-28.9	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	317
318	Gary, J	3,150	Buda, HTU	4	4¼x5½-28.9	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	318
319	Gersix, G	3,150	Buda, LSU	4	4¼x5½-28.9	F	Simplex	P	T, Chicago		Stromberg		M, Bosch		P, Borg & B	I, 3	Cotta, BUA			319
320	Gersix, K	3,150	Buda, HU	4	3¼x5½-19.6	S	Monarch	P	C, Ideal		Stromberg		M, Bosch		P, Borg & B	I, 3	Cotta, BUA			320
321	Gramm-Bernstein, 25	3,575	Hinkley	4	4¼x5½-28.9	F	Hinkley	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	321
323	Hahn, E	2,500	Continental, E4	4	4¼x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			323
324	Hal-Fur, B	2,750	Buda	4	4¼x5½-28.9		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	324
325	Harvey, WFA	3,300	Buda	4	4¼x5½-28.9		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	325
326	Hendrickson, I	3,300	Buda, HU	4	4¼x5½-28.9	F	McCanna				Stromberg	G	M, Dixie		M	S, 4	Fuller		Thermoid	326
326a	H. R. L., H	3,650	Hinkley, HAA	4	4x5½-25.6	F	Hinkley	P	T, Fedders		Zenith	G	M, Bosch		M, Brown-L	S, 4	Brown-L		Spicer	326a
327	Hurlburt	3,750	Buda	4	4¼x5½-28.9	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35			327
328	Indiana, 25	3,150	Own	4	4¼x5½-27.2	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Acme	328
329	Jumbo, 25	3,450	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	329
330	Kalamazoo, H		Wisconsin, TAU	4	4x6-25.6	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	330
331	Kankakee, E	3,175	Continental N9	6	3¼x5½-25.3	FS		P	C, Auto	N	Zenith	G	B	Y	M, Muncie	S, 3	M'e AS-5-T23N	N	Acme	331
331a	Karavan		Buda, XTU	4	4¼x6-28.9	F	Duplex	P	T, Fedders		Zenith	G	M, Berling		M, Brown-L	S, 4	Brown-L		Spicer	331a
332	Kelly-Sp'gf'ld K35(ch'n)	3,500	Own	4	3¼x5½-22.5	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, O	N	Own	332
333	Kelly-Sp'gf'ld, K36(w'm)	3,500	Own	4	3¼x5½-22.5	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, O	N	Spicer	333
324	Kimball, C	3,975	Wisconsin, UU	4	4¼x6-28.9	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	334
335	Kissel, Freighter	3,475	Own	4	4¼x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	335
336	Kleiber, B	4,200	Continental, E4	4	4¼x5½-32.4	S	Pierce	P	T, R'e-T'n'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	336
337	Koehler, M	3,367	Hercules, CU3	4	4x5½-25.6	F	Simplex	P	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	337
338	K-Z	3,200	Continental, C4	4	4¼x5½-27.2	S	McCanna	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Therm-ele	338
339	Larrabee, SK		Continental, C4	4	4¼x5½-27.2	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	339
340	L.M.C, 2-20	2,540	Continental, C2	4	4¼x5½-27.2	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Borg & B	S, 4	Detroit, H	N	Baker	340
341	Maccar, H	3,750	Continental, E4	4	4¼x5½-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Spicer	341
342	Maplelea f, BB		Hinkley, HA500	4	4¼x5½-28.9	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	342
342a	Master, D, (int.)	3,540	Buda, HU	4	4¼x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342a
342b	Master, W, (worm)	3,290	Buda, HU	4	4¼x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342b
343	Midland, S	3,150	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-L, 50			343
344	Moreland, 19C	3,900	Continental	4	4¼x5½-32.4	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	344
344a	Nelson & LeMoon, F2½		Continental	4	4¼x5½-27.2		Pierce	P	T, Chicago		Stromberg		M, Bosch	N	M, Brown-L	S, 3	Brown-Lipe		Thermoid	344a
345	Netco, H	3,800	Continental, E4	4	4¼x5½-32.4	S	N	P	T, R'e-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	345
346	Noble, D50		Buda	4	4¼x5½-28.9		Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 4	Fuller		M & E	346
347	Ogden, C2	2,995	Continental, C2	4	3¼x5-22.5	S	Pierce	P	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30		Acme	347
347a	O. K., L	3,450	Buda, HTU	4	4¼x5½-28.9	FS	Pierce	P	T, R'me-T'n'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, GU5		Hartford	347a
348	Old Reliable, B	3,250	Wisconsin, UU	4	4¼x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	348
348a	Oneida, C9	3,390	Hink'y, HAA400	4	4x5½-25.6	F	Own	P	C, Modine	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G5	N	Peters	348a
348b	Orleans	3,150		4	4¼x5½-27.2			P	T		Master	G	M, Eisemann	N	M	I, 4	Cotta			348b
349	Paige, 54-20	3,400	Hinkley, HA500	4	4¼x5½-28.9	F	Simplex	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	349
350	Patriot, Washington	3,450	Hinkley, HA	4	4¼x5½-32.4	F	Hir kley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Covert, RA4	N	Thermoid	350
350a	Pittsburgh, B		Continental, C4	4	4¼x5½-27.2	F	Monarch	P	T, G & O		Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L		Spicer	350a
351	Reliance, B20	3,200	Buda, HTU	4	4¼x5½-28.9	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	I, 4	Cotta, R	N	Peters	351
352	Republic, 19	2,790	Continental, C2	4	4¼x5½-27.2	FS	Pharo	P	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 4	Fuller, GU5	N	Spicer	352
353	Reynolds, 5A	3,800	Hinkley	4	4¼x5½-28.9	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	353
354	Rowe, CDW	3,575	Wisconsin	4	4x5-25.6	F	Simplex	P	T, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	354
355	Royal	3,500	Wisconsin	4	4¼x6-28.9		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			355
356	Sandow, J	3,175	Continental, C4	4	4¼x5½-27.2	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	356
357	Sanford, W25	3,350	Continental, C4	4	4¼x5½-27.2	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35	N	Spicer	357
358	Schacht	3,850	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 3	Own	N	M & E	358
359	Schwarts, C2	2,675	Continental, K4	4	4¼x3½-27.2	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	W Brown-L	S, 3	Brown-L, 50	N	M & E	359
360	Selden, 2½A	3,550	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	360
361	Service, 51	3,475	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	361
361a	Signal, J	3,275	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	361a
361b	Standard, 76	3,100	Continental, C2	4	4¼x5½-27.2	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	361b
362	Sterling		Own	4	4¼x5½-30.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	362
362a	Success, B	2,850	Continental, C4	4	4¼x5½-27.2	F	Monarch	P	C		Zenith	G	M, Eisemann		M, Fuller	S, 4	Fuller, GU5		Uni. Prod.	362a
363	Super, 50		Wisconsin, TAU	4	4x6-25.6	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Thermoid	363
364	Tiffin, MW	3,580	Continental, C4	4	4¼x5½-27 2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Peters	364

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TRUCK SPECIFICATIONS

5,000 (Acason—Tiffin)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
294	W, Timken, 6560..	Y	W	2, R	13, 10	E, E	P, Savage....	½, ½	Detroit....	10, 14	42x2½-56x3½...	L	Ross.....		I, Smith....	150	36x4-36x8.....	4,850	—, 76	294
295	W, Timken, 6560..	Y	W	2, R	11½, 9¾	E, E	P, Parish & B..	½, ½	Mather....	10, 12	39x2½-54x3...	L	Ross.....	60, 0	S, Davton..	156	36x6p-40x8p.....	5,650	25, 60	295
295a	W, Sheldon, W21.	N	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	12, 14	40x2½-52x3...	L	Ross.....		W.....	150	36x4-36x4d.....		50, 70	295a
295b	I, Torbensen	....	W, Powrlok..	2, R	.....	..	P.....	½, ½		10, 12	40x2½-54x3...	....	.....		W.....	130	34x4-34x6.....	.....	.....	295b
295c	W, Wisconsin.....	....	.....	2, R	.....	....	.....	½, ½	Perfection..	....	.....	....	Lavine.....		I,Smith....	158	36x4-34x4d.....	5,000	.....	295c
296	I, Torbensen.....	Y	B	2, R	11, 13½	C, E	R.....	½, ½	Detroit....	10, 13	39½x2½-52½x3..	L	Lavine.....		W, Bimel...	150	36x4-36x6.....	4,510	—, 66	296
297	W, Timken, 6560..	N	W	2, R	10, 10	E, E	P, Smith.....	½, ½	Mather....	7, 9	44½x2½-59x3...	L	Ross.....	52, 0	W,St.M'rys.	148	36x4-36x4d.....	4,600	60, 80	297
298	W, Timken, 6560..	Y	B	2, R	15, 9½	E, E	P.....	½, ½	Spring Perch	9, 12	41½x2½-54x3...	R	Gemmer..	55, 9	W, Arch'b'ld	153¾	36x4-36x4d.....	5,070	.....	298
299	W, Wisc., 900C...	N	W	2, R	11, 10	E, C	R, Own.....	½, ½	Tuthill....	9, 14	40x2½-52x3...	L	Ross.....	44, 0	W, Schwarz.	152	36x4-36x8.....	5,000	55, 75	299
300	W, Timken.....	N	W	2, R	14, 12	C, E	P.....	½, ½	Higgins....	9, 15	40x2½-52x3½...	L	Lavine..	48, 0	W, Bimel...	144	36x5-36x8.....	4,200	30, 75	300
301	I, Russel.....	Y	B	2, R	11,14	C, E	R, Own.....	½, ½	Detroit	9, 14	42x2½-56x3...	L	Gemmer..	52, 0	W, Bimel...	146	34x4-34x6.....	4,200	50, 70	301
302	I.....	N	B	2, R	9½, 12	C, E	P.....	½, ½	Perfection..	10, 12	41½x2½-56x3...	L	Ross.....		W, Schwarz.	158	36x4-36x4d.....	4,625	50, 75	302
303	W, Timken, 6560..	Y	B	2, R	11, 9	E, E	P, Parish & B..	½, ½	Temme....	8, 14	40x2½-55x3...	L	Ross.....	35, 0	S, Dayton..	150	36x4-36x7.....	4.750	75,—	303
304	W.....	....	.....	2, R	.....	....	.....	½, ½		....	.....	....	.....		.....	156	36x4-Opt.....	5,500	.....	304
305	W, Timken, 6560..	N	B	2, R	.....	E, E	P, Parish.....	½, ½	Merrill....	10, 13	43x2½-51½x3...	L	Gemmer..	.....	W, Hoopes..	152	36x4-36x7.....	4,850	54, 84	305
305a	W, Wisc., 900C..	Y	B	2, R	11½, 9½	E, E	R.....	½, ½	SpringPerch	....	42x3-56x3½...	L	Ross.....	54, 0	S, Detroit.	.....	36x4-36x8.....	5,100	55, 85	305a
306	W, Timken, 6560..	Y	B	2, R	12 ,9	E, E	R, Own.....	½, ½	Mather....	9, 13	40x2½-54x3...	L	Gemmer..	.....	W, Standard	156	36x4-36x7.....	4,610	60, 75	306
307	W, Timken, 6560..	N	B	2, R	11½, 9	E, E	P, Parish & B..	½, ½	Perfection..	7, 10	44x3-52x3....	L	Ross.....	48, 0	I, Smith....	163	36x4-36x8.....	4.950	60, 80	307
307a	W, Timken, 6560..	N	B	2, R	11½, 9	E, E	P, Parish & B..	½, ½	Perfection..	7, 10	44x3-52x3....	L	Ross.....	48, 0	I, Smith....	163	36x4-36x8.....	5,000	60, 80	307a
308	I, Russel, NI-400..	Y	B	2, R	.....	C, E	R.....	½, ½	Perfection..	9, 11	40x2½-52x3½...	L	Own.....	.....	W,St.M'rys.	144	36x4-36x7.....	5,100	.....	308
309	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish & B..	.....	Spring Perch	.....	.....	L	Ross.....	.....	W, Crane...	150	36x4-36x4d.....	.....	.....	309
309a	W, Sheldon.....	....	.....	2, R	.....	....	.....	½, ½	Sheldon....	....	.....	....	Ross.....	.....	W, Bimel...	152	36x4-36x7.....	5,325	.....	309a
310	W, Own.....	Y	B	2, R	10½, 10½	E, E	P, Savage....	½, ½	Perfection..	8, 11	39x2½-56x3....	L	Ross.....	50,0	W, Prudden.	150	36x4-36x7.....	4.750	50, 80	310
311	W, Sheldon, W21.	Y	B	2, R	12¼, 9¾	E, E	P, Savage....	½, ½	Iron City...	9, 14	42x2½-56x3....	L	Gemmer.	54, 0	W, Jones...	150	36x4-36x7.....	5,000	50, 70	311
312	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish.....	.....	Mather....	....	.....	L	Ross.....	.....	W, Schwarz.	136	36x4-36x6.....	.....	.....	312
314	W, Wisc., 900C...	Y	W	2, R	10, 10	E, C	P.....	½, ½	Perfection..	11, 14	42x2½-52x3....	L	Ross.....	36, 0	W, Bimel...	157	36x4-36x7.....	5,600	40, 70	314
315	C.....	....	.....	2, R	.....	E, E	P.....	½, ½		....	.....	....	.....	.....	W.....	156	36x5-36x7.....	.....	.....	315
316	W, Timken.....	....	.....		.....	....	P.....	....		....	.....	....	Ross.....	.....	.....	160	34x4-36x5.....	.....	.....	316
317	W, Timken, 6560..	Y	B	2, R	9½, 10	E, C	R, Own.....	½, ½	Mather....	9, 13	41x2½-56x3....	L	Ross.....	56, 1	W, Prudden.	144	34x4-36x7.....	4,600	50, 71	317
318	W, Timken, 6560..	Y	W	2, R	12, 10½	E, E	P.....	½, ½	Tuthill....	11, 13	44x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	148	36x4-36x7.....	4,850	50, 20	318
319	W, Own.....	....	.....	2, R	.....	C, E	R, Own.....	½, ½	Tuthill....	....	.....	....	Ross.....	.....	W, Jones...	150	36x4-36x7.....	.....	.....	319
320	W, Own.....	....	.....	2, R	.....	C, E	R, Own.....	½, ½	Tuthill....	....	.....	....	Ross.....	.....	W, Jones...	150	36x4-36x7.....	.....	.....	320
321	W, Standard.....	Y	B	2, R	.....	E, E	P, Own.....	½, ½	Perfection..	.....	46x2½-58x3....	L	Ross.....	59, 6	I, Smith....	150	36x4-36x4d.....	6,800	73¾, 91	321
323	W, Timken.....	....	.....	2, R	.....	....	P.....	....	Delaney....	....	.....	....	Ross.....	.....	W.....	156	36x4-36x4d.....	.....	.....	323
324	W, Timken.....	....	.....	2, R	.....	E, E	P, Parish & B..	....	Spring Perch	.....	.....	L	Gemmer..	.....	S, Massillon.	168	35x5-36x7.....	.....	.....	324
325	W, Sheldon.....	....	.....	2, R	.....	E, E	R, Own.....	....	Sheldon....	....	.....	L	Ross.....	.....	W, Schwarz.	150	36x4-36x7.....	.....	.....	325
326	W, Timken.....	....	.....	2, R	.....	....	.....	½, ½	Tuthill....	....	.....	....	Ross.....	.....	W,Standard	.....	36x4-36x7.....	.....	.....	326
326a	W, Sheldon.....	....	.....	2, R	.....	....	.....	½, ½	Sheldon....	....	.....	....	Ross.....	.....	W, Schwarz	154	36x4-36x4d.....	5,310	.....	326a
327	W, Hindley.....	....	.....	2, R	.....	E, C	P, Savage....	½, ½	Perfection..	....	.....	....	Ross.....	.....	W, Wayne..	170	36x4-36x4d.....	.....	.....	327
328	W, Sheldon, W21..	N	B	2, R	12¼, 9¾	E, E	R.....	½, ½	Sheldon....	9, 14	40x2½-50x3....	L	Wohlrab..	50, 0	W. Bimel...	156	36x4-36x8.....	6,000	61, 71½	328
329	I, Clark, 2D.....	Y	B	2, R	10, 11½	C, E	P.....	½, ½	Perfection..	9, 14	40x2½-54x3....	L	Jacox....	45, 0	S, Clark....	152½	36x4-36x7.....	5,190	50, 75	329
330	W, Sheldon, W21..	N	W	2, R	9½, 9	E, E	R.....	½, ½	Sheldon....	8, 13	42x2½-56x3....	L	Ross.....	34, 3	I, Smith....	160	36x4-36x8.....	6,200	—, 80	330
331	I, Russel, S.....	Y	B	2, R	9, 13¼	C, E	R, Own.....	½, ½	Temme...	9, 11	39½x2½-49½x3..	L	Ross.....		W, Bimel...	170	34x4-34x6.....	4,200	30, 70	331
331a	W, Sheldon.....	....	.....	2, R	.....	....	.....	½, ½	Sheldon....	....	.....	....	Ross.....	.....	I, Smith....	148	36x4-36x8.....	5,700	.....	331a
332	C, Own.....	N	B	2, R	9⅛, 16	E, E	P.....	½, ½	Perfection..	11, 13	40x2½-44x2½...	L	Gemmer..	48, 0	W.....	144	36x4-36x4d.....	5,200	50, 90	332
333	W, Own.....	N	B	2, R	9⅛, 9¾	E, E	P.....	½, ½	Perfection..	11, 12	40x2½-47½x3....	L	Gemmer.	48, 0	W.....	144	36x4-36x4d.....	5,540	50, 90	333
334	W, Sheldon, W21..	Y	B	2, R	.....	E, C	P, Parish.....	½, ½	U. S.....	11, 13	40⅜x2½-50½x3..	L	Ross....	39, 6	I, Smith....	.....	36x6p-36x8.....	.....	50. 80	334
335	W, Timken, 6560..	Y	W	2, R	10¾, 10	E, E	P, Smith.....	½, ½	Mather....	10, 11	38x2½-54x3....	L	Lavine..	50, 0	W Prudden.	168	36x4-36x7.....	5,200	57½, 76	335
336	W, Sheldon, W21..	Y	W	2, R	9⅛, 9¾	E, E	R, Own.....	½, ½	Betts.....	8, 14	44x3-52x3....	R	Ross.....		W,Wat'rh'se	160	36x4-36x8.....	5,900	50, 75	336
337	W, Timken, 6560..	Y	B	2, R	12, 9⅛	E, E	P, Parish & B..	½, ½	Mather....	10, 12	40x2½-56x3....	L	Lavine..		W, Wayne..	162	36x4-36x7.....	5,000	50, 75	337
338	W, Timken, 6560..	N	B	2, R	12½, 10½	E, E	R, Own.....	½, ½	Tuthill....	8, 10	40x2½-50x3....	L	Lavine..	64, 8	W,St.M'rys.	150	36x4-36x8.....	4,800	.....	338
339	W, Sheldon, W21..	Y	B	2, R	15, 10	E, E	P, Parish & B..	½, ½	Merrill....	9, 13	41x2½-54x3....	L	Ross.....		W, Hoopes..	156	36x4-36x7.....	5,200	42, 86	339
340	I, Russel, S.....	Y	B	2, R	10¼, 14½	C, E	R, Chopper....	½, ½	Mather....	9, 11	42x2½-56x3....	L	Lavine..	47, 0	W, Bimel...	164	36x4-36x4d.....	4,500	53, 75	340
341	W, Timken, 6560..	N	B	2, R	12¼, 10	E, E	P, Parish.....	½, ½	Merrill	8, 12	42x2½-56x3....	L	Ross.....		S, Dayton..	162	36x4-36x4d.....	5,000	—, 70	341
342	W, Sheldon, W21..	Y	B	2, R	11⅛, 9¾	E, E	R, Own.....	½, ½	Sheldon....	.....	44x2½-54x3....	L	Ross.....		W, Hayes...	150	36x4-36x4d.....	5,500	50, 70	342
342a	I, Walker.....	Y	BS	2, R	.....	C, E	P, Parish & B..	½, ½	Detroit....	11, 13	44½x2½-52x3..	L	Ross.....	42, 0	S, Walker..	144	34x4-36x7.....	4,300	53, 76	342a
342b	W, Timken, 6560..	Y	B	2, R	9¾, 10¾	E, E	P, Parish & B..	½, ½	Detroit....	11, 13	44½x2½-52x3..	L	Ross.....	42, 0	W, Prudden.	144	34x4-36x7.....	4,500	53, 76	342b
343	W, Sheldon, W21..	....	.....		.....	E, E	P, Parish & B..	½, ½	Sheldon....	....	.....	....	Ross.....	.....	I, Smith....	150	36x4-36x7.....	.....	.....	343
344	W, Timken, 6552..	N	W	2, R	12, 10	E, E	P.....	½, ½	U. S.....	10, 11	39¾x2½-50x3½...	L	Ross.....	50, 0	I, Smith....	144	36x4-36x7.....	5,400	50, 65	344
344a	W, Timken, 6560 .	Y	.....	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	....	.....	R	Lavine..	.....	W, Prudden.	.....	36x4-36x7.....	.....	.....	344a
345	W, Timken, 6560..	Y	B	2, R	12, 11	E, E	P.....	½, ½	Perfection..	10, 15	39x2½-49½x3....	L	Ross.....		W, Arch'b'ld	168	36x4-36x8.....	5,120	57, 65	345
346	W, Sheldon.....	....	.....	2, R	.....	E, E	P, Slick-Knox.	.....	SpringPerch	....	.....	L	Lavine..	.....	W. Bimel...	150	36x4-36x8.....	5,700	.....	346
347	W, Timken.....	Y	B	2, R	10, 10	E, E	P Garden City.	C, C	Tuthill.....	8, 10	38x2¼-50x2½...	L	Gemmer..	.....	W, Standard	160	36x3½-36x4.....	3,400	—, 70	347
347a	W. Wisc., 900.....	....	.....	2, R	.....	E	P, Savage.....	½, ½	Liggett....	....	.....	....	Ross.....	.....	W, Bimel...	150	336x4-36x8.....	.....	.....	347a
348	W, Sheldon, W21..	Y	W	2, R	10⅛, 9¾	E, E	R.....	½, ½	Sheldon....	9, 14	46x3-54x3....	R	Ross.....		W,St.M'rys.	160	34x4-36x4d.....	5,750	—. 70	348
348a	W, Wisc., 900C..	N	B	2, R	10½, 9	E, E	P, Detroit.....	½, ½	Mather....	9, 13	40x2½-56x3....	L	.....	.....	W.....	160	36x3-36x7.....	5,200	60, 85	348a
348b	W.....	N	.....	2, R	.....	E, E	R.....	½, ½		.....	42x2½-54x3....	L	Ross.....	.....	I, Smith....	160	36x4-36x7.....	.....	.....	348b
349	W, Timken.....	N	B	2, R	.....	E, E	P.....	½, ½	Perfection..	11, 11	45x2½-54x3....	L	Ross.....		S, Dayton..	150	34x4-34x8.....	5,200	60, 75	349
350	W, Empire, O.....	Y	B	2, R	10, 10½	E, E	P, Detroit.....	½, ½	Cooper....	10, 15	44x2½-56x3....	....	Ross.....	51, 10	W, Bimel...	156	36x4-36x7.....	5,200	49, 82	350
350a	W, Sheldon.....	....	.....	2, R	.....	....	.....	½, ½	Iron City....	....	.....	....	Ross.....	.....	I, Smith....	160	36x5-36x7.....	5,500	.....	350a
351	E, Badger.....	Y	W, Powrlok..	2, R	10, 10¼	E, E	P, Savage.....	½, ½	Sheldon....	9, 11	46x2½-58x2½...	L	Ross.....		W, Bimel...	156	36x4-36x4d.....	5,500	40, 85	351
352	I, Torbensen, C2..	Y	W, Powrlok..	2, R	.....	E, E	P, Detroit.....	½, ½	Mather....	9, 13	38½x2½-52½x3..	L	Jacox.....		W.....	144	36x4-36x7.....	4,200	.....	352
353	W, Sheldon.....	Y	B	2, R	11, 9½	E, E	R, Standard...	½, ½	Perfection..	.....	40x2½-54x3....	L	Lavine..		I, Smith....	154	36x4-36x8.....	.....	.....	353
354	W, Sheldon, W21..	....	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	.....	.....	L	Ross.....		W, Hoopes..	162	34x4-36x4d.....	4,500	—, 64	354
355	W, Timken	....	.....	2, R	.....	E, E	R, Own.....	.....	Merrill....	....	.....	....	Ross.....	.....	W.....	132½	36x4½-36x6.....	.....	.....	355
356	W, Timken, 6560..	Y	W	2, R	9¼, 9½	E, E	P, Savage.....	½, ½	Garden City	8, 13	38½x2½-54x3....	R	Ross.....	36, 0	W, Standard	165	36x4-36x7.....	4.650	20, 70	356
357	W, Sheldon, W21..	Y	W	2, R	11, 9½	E, E	P, Parish & B..	½, ½	Perfection..	9, 13	42x2½-52x3....	L	Ross.....	58, 0	W Hoopes..	174	36x4-36x4d.....	5,330	73, 87	357
358	W, Own.....	N	B	2, R	11, 9	C, E	R, Own.....	½, ½	National...	9, 14	35x2½-50x3....	L	Own.....	.....	W,St.M'rys.	156	36x4-36x4d.....	6,000	—, 70	358
359	I, Torbensen, D...	Y	B	2, R	10, 11½	C, E	P, Parish.....	½, ½	Rowland....	10, 15	40½x2½-54x3....	L	Ross.....		W, Schwarz.	150	34x4-34x7.....	4,200	.....	359
360	W, Timken, 6560..	N	B	2, R	12, 10½	E, E	P, Parish & B..	½, ½	Perfection..	9, 14	40x2½-54x3....	R	Gemmer..	54, 0	S.....	145	36x4-36x7.....	5,400	52, 75	360
361	W, Timken, 6560..	Y	B	2, R	12, 9¾	E, E	P.....	½, ½	Mather....	10, 14	42x2½-54x3....	L	Ross.....	48, 0	W, Bimel...	160	36x4-36x7.....	5,180	—, 70	361
361a	W, Timken, 6560..	N	B	2, R	11, 11	E, E	P, Savage.....	½, ½	Detroit....	10, 13	44x2½-56x3....	L	Ross.....	60, 0	W, Hayes...	150	34x4-36x8.....	5,210	—. 76	361a
361b	W. Timken, 6560..	N	B	2, R	12, 9½	E, E	R, Own.....	½, ½		8, 12	38x2½-54x3....	L	Ross.....		W.....	140	36x4-36x7.....	4.430	59, 71	361b
362	W, Timken, 6560..	N	B	2, R	12¼, 10	E, E	P.....	½e½c	Mather....	8, 12	48x3-54x3....	L	Ross.....	52, 9	W, Prudden	156	36x4-36x4d.....	5,500	58, 88	362
362a	W, Sheldon.....	....	.....	2, R	.....	....	.....	½, ½	Sheldon....	....	.....	....	Lavine..	.....	.....	144	34x4-36x7.....	4,700	.....	362a
363	W, Sheldon, W21..	N	B	2, R	11½, 9¾	E, E	P.....	½, ½	Sheldon....	10, 12	40x2½-50x3....	L	Lavine..	49, 0	W.....	156	36x4-36x8.....	5,250	.....	363
364	W, Sheldon, W21..	Y	B	2, R	10, 11	E, E	P.....	½, ½	Kalamazoo.	11, 14	44x2½-50x3....	L	Ross.....	52, 0	I, Smith....	148	36x4-36x3½d.....	4,890	40, 60	364

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5,000 (Titan)—7,000 (Larrabee) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carburetor.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	5,000 Pounds—Con.																			
365	Titan	3,400	Buda, HTU	4	4½x5½-28.9	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, AU	N	M & E	365
366	Tower, H	3,475	Continental, C4	4	4½x5½-27.2	S	Pierce	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N		366
366a	Transport, 50	2,785	Buda, HTU	4	4½x5½-28.9	F	Duplex	P	C	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	Hartford	366a
367	Traylor, D	3,375	Buda, MTU	4	4½x5½-28.9	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 4	Covert	N		367
368	Triangle, B	2,950	Waukesha, FU	4	4x5½-25.6	FS	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Detroit	368
369	Ultimate, B	3,750	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	369
370	Union, F	3,150	Wisconsin, TAU	4	4x6-25.6	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	370
371	United, B	3,150	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			371
372	Vulcan, 25	3,750	Wisc., UAU	4	4½x6-28.9	F	Pierce	P	T	Y	Zenith	G	M, Eisemann	N	M, Brown-L, 50	S, 4	Brown-L, 50	N	Spicer	372
373	Walker-Johnson, B	3,500	Buda, HU	4	4½x5½-28.9	F	Pierce	P	T		Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L	N	Spicer	373
374	Ward LaFrance, 2B	3,590		4	4½x5½-30.6	F		P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	M & E	374
375	Watson, 19		Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	T, R'e-T'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	375
375a	White Hickory, K	3,350	Continental, C2	4	4½x5½-27.2	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	M & E	375a
376	Wichita, R	3,000	Waukesha, BX	4	3½x5½-22.5	P	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4		N	Thermoid	376
376a	Wichita, RX	3,600	Beaver, JB	4	4½x6-28.9	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	I, 4		N	Thermoid	376a
377	Wilcox, C		Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		377
378	Wilson	3,150	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Thermoid	378
379	Winther, 450	3,690	Wisconsin, EAU	4	4x5-25.6	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU5	N	Peters	379
380	Wisconsin, C	2,850	Waukesha	4	4x5½-25.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			380
381	Witt-Will, P	2,950	Continental	4	4½x5½-27.2		Pierce	P	C, Modine		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	381
	6,000 Pounds:																			
381a	Ace	3,650	Buda, HU	4	4½x5½-28.9	FS	Pierce	P	C, Modine	Y	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller	N	M & E	381a
382	A & B, 3T	4,500	Own	4	5½x6½-42.8		N	P	T, Bush		Schebler		M, Bosch	N	N	* 2	*		Franco	382
383	Beck, D	3,500	Continental	4	4½x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	383
384	Beech Creek, 3A	3,850	Waukesha	4	4½x5½-28.9		Waukesha	P			Master		M, Eisemann		M, Fuller	S, 3	Fuller			384
384a	Bethlehem, H	2,795	Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, GU	N	Universal	384a
384b	Denby, 25	3,600	Continental, C2	4	4½x5½-27.2	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 4	Fuller, GU	N	Universal	384b
384c	Douglas, I	3,500	Buda	4	4½x5½-28.9		Pierce	P	T, Own		Schebler		M, Eisemann		M, Fuller	S, 4	Fuller		Arvac	384c
385	Forschler, BX	3,450	Continental	4	4½x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 4	Fuller		Own	385
386	FWD, B	4,900	Wisconsin, A	4	4½x5-36.1	FS	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Hele-Shaw	I, 3	Cotta, DAF	N	Blood	386
387	Jumbo, 30	3,950	Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	387
388	Kimball, K	4,400	Wisconsin, AU	4	4½x5½-36.1	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	388
389	MacDonald, A	5,750	Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own		Stromberg	G	M, Splitdorf		M, Brown-L	S, 4	Brown-L		Own	389
390	Packard, ED	4,900	Own	4	4½x5½-28.0	F	Own	P	C, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	390
391	Riker, B	4,600	Own	4	4½x6-28.9	S	Own	P	T	N	Own	G	M, Berling	N	C, Own	S, 4	Own	N	Own	391
392	Rowe, GSW (4-cyl.)	4,150	Wisconsin	4	4x6-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	392
393	Rowe, GPW (8-cyl.)	5,250	Pittsburgh	8	3½x5-35.2	F	N	P	C, Fedders		Zenith	G	Atwater-K	Y	M, Brown-L	S, 4	Brown-Lipe	Y	Spicer	393
393a	Stoughton, F	3,600	Hercules, MU2	4	4½x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Thermoid	393a
393b	U. S., R		Hink'y, HAA400	4	4x5½-25.6	F	Hinkley	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Blood	393b
394	Vim, 23	3,950	Hercules	4	4½x5½-28.9	F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	394
395	Walter (N. Y.), T		Waukesha, CU	4	4½x5½-30.6	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Brown-L, 50		M & E	395
396	White, 40	4,500	Own	4	3½x5½-22.5	F	Own	P	T, Own	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	396
	7,000 Pounds:																			
397	Acason, L	4,500	Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Detlaff, H5	I, 4	Cotta, R	Y	Blood	397
398	Acme, C	4,050	Continental, E7	4	4½x6-32.4	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	N	Blood	398
398a	Aetna	4,375	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, S	N	Spicer	398a
399	All-Power, 8V4	5,800	Continental	4	4½x5½-32.4		Pharo	P	T, McCord		Zenith		M, Eisemann	Y	M, Detlaff	I, 3	Cotta		Universal	399
400	Armleder, KW		Buda, YTU	4	4½x6-32.4	F		P	T, Long	N	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	400
401	Atterbury, 7D	4,175	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	401
402	Available, H3½	4,475	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	402
403	Belmont, D	3,550	Buda, YU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, G	N	Sterling	403
404	Brockway, R3	4,100	Continental, E4	4	4½x5½-32.4	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	404
405	Capital, M3½	4,150	Wisc., UAU	4	4½x6-28.9	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Detlaff	I, 4	Cotta	N	Thermoid	405
406	Chicago, C3½	3,800	Hercules, MU3	4	4½x5½-32.4	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Peters	406
407	Clydesdale, 90C	4,400	Own	4	4½x5½-32.4	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	407
408	Dart, W	4,000	Buda, YU	4	4½x6-32.4	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, HU	Y	Spicer	408
409	Day-Elder, F	3,750	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 50	N	Hartford	409
411	Diamond T, K	3,925	Hinkley	4	4½x5½-28.9	FS	Unit Mot	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 4	Covert	N	Spicer	411
412	Dorris, K7	4,400	Own	4	4½x5½-28.9	F	Own	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Warner	S, 4	Warner, T53	N	Spicer	412
413	Duplex, E	4,250	Buda, TU	4	4½x5½-28.9	S	Duplex	P	T, Long	N	Schebler	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Peters	413
414	Erie		Continental	4	4½x5½-32.4		Pierce		T		Stromberg		M, Bosch			S, 4				414
415	Fageol	5,000	Waukesha, DU	4	4½x6-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	415
416	Federal, WE	3,950	Continental, E4	4	4½x5½-32.4	S	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner	N	Spicer	416
417	Garford, 77C	4,300		4	4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		417
418	Garford, 77D	4,190		4	4½x6-32.4	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		418
419	Gary, KL	4,150	Buda, YTU	4	4½x6-32.4	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	419
419a	Gersix, L	4,500	Buda, YTU	4	4½x6-32.4	F	Monarch	P	C, Ideal	N	Stromberg	G	M, Bosch	N	P, Borg & B	I, 4	Cotta, S	N	Blood	419a
420	Giant, 17	4,150	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	C, Own	Y	Stromberg	G, K	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N		420
421	GMC, 71A		Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	421
422	Gramm-Bernstein, 35	4,375	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	422
423	Hall	4,100	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	423
424	Harvey, WHA	4,300	Buda	4	4½x6-32.4		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	424
424a	Hawkeye, N		Buda, YTU	4	4½x6-32.4	F	Simplex	P	C	N	Zenith	G	M, Eisemann	Y	M, Fuller	I, 4	Cotta	Y	Hartford	424a
425	Hendrickson	3,800	Buda	4	4½x5½-28.9		Pierce	P	T, Chicago		Stromberg		M, Dixie	N	M, Fuller	S, 4	Fuller			425
426	Hurlburt, C	4,400	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Fleshter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50			426
427	Indiana, 35	3,750	Own	4	4½x5½-30.6	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	427
428	International, L	4,500	Own	4	4½x5-28.9	FS	Own	P	T, Long, McC	Y	Ensign	G	M, Dixie	N	M, Own	S, 4	Brown-L	N	Own	428
429	Jackson, C1920	4,250	Continental	4	4½x5½-32.4		Pierce	P	T, Long		Stromberg		M, Eisemann		P, Borg & B	S, 4	Own		Spicer	429
430	Jumbo, 35	4,550	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	430
431	Kalamazoo, K		Wisconsin, UAU	4	4½x6-28.9	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Asma	431
432	Kelly-Sp'gf'ld, K40 (ch'n)	4,400	Own	4	4½x6-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C	S, 3	Covert, K	N	Own	432
433	Kelly-Sp'gf'ld, K41 (int.)		Own	4	4½x6-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	433
434	Kelly-Sp'gf'ld, K42 (w'm)		Own	4	4½x6-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	434
435	Kissel, Heavy Duty	4,475	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	435
436	Kleiber, C	4,900	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'rn'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	436
437	K-Z	4,400	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	437
438	Larrabee SL		Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	438

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TRUCK SPECIFICATIONS

5,000 (Titan)—7,000 (Larrabee)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 2-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
365	I, Clark, 2D	N	B	2, R	11, 14	E, C	P, Parish & B.	½, ½	Sheldon	9, 11	46x2½-54x3	L	Wohlrab.	38, 0	W	156	34x4-36x4d	4,975	51, 78	365
366	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		44x2½-56x3	L	Ross		W, Prudden	146	36x4-36x7	5,230	—, 75	366
366a	I, Clark, 2D	Y	B	2, R	11½, 13	C, E	P, Detroit	½, ½	Detroit	9, 13	40x2½-54x3	L	Jacox		W	150	36x4-36x7	4,250	30, 70	366a
367	W, Sheldon, W21	Y	W	2, R		E, E	P, Savage	½, ½			40x2½-52x3	L	Ross		W, Schwars.	150	36x4-36x7	5,500		367
368	I, Clark, 2D	Y	B	2, R	13, 11	C, C	R	½, ½	Detroit	10, 12	42½x2½-54x3	L	Gemmer	56, 0	W, Royer	151	36x4-36x7	4,900	60, 80	368
369	W, Sheldon, W21	N	B	2, R	10, 9½	E, E	P	½, ½	Sheldon	10, 16	39x2½-52x3	L	Ross	49, 0	W	154	36x4-36x4d	5,340	50, 70	369
370	I, Russel, T	Y	B	2, R	13, 16	C, E	P, Own	½, ½	Mather	8, 14	44x2½-56x3	L	Ross		W, Prudden	152	36x5-36x8	5,100	50, 70	370
371	I, Clark, 2D			2, R		E, C	P, Detroit	½, ½	Detroit				Jacox		W	151	36x4-36x7			371
372	W, Sheldon	N		2, R		E, E	P	½, ½			45x2½-55x3	L	Ross		I, Smith	148	36x4-36x8			372
373	W, Timken	Y		2, R		E, E	P	½, ½	SpringPerch	8, 16			Ross		W	150	36x4-36x8	5,200	—, 70	373
374	W, Timken, 6560	N	W	2, R	12½, 9½	E, E	P, Detroit	½, ½	Merrill		40x2½-54x3	L	Ross		W	158	36x4-36x4d	5,400	—, 85	374
375	W, Empire, O	Y	B	2, R	11, 10	E, E	P, Parish	½, ½	Sheldon		42x2½-54x3	L	Gemmer		W, Crane	156	36x4-36x7			375
375a	W, Timken, 6560	Y	W	2, R	12, 9½	E, E	P, Parish & B	½, ½	Sheldon	8, 12	44x2½-56x3	L	Lavine	52, 0	W, Bimel	150	36x4-36x7	4,650	54, 78	375a
376	W, Sheldon	Y	B	2, R	11, 9½	E, E	P, Own	½, ½	Detroit		40x2½-56x3	R	Ross		S	144	36x4-36x7	4,500		376
376a	W, Sheldon	Y	B	2, R	11, 9½	E, E	P, Own	½, ½	Detroit		40x2½-56x3	R	Ross		S	160	36x4-36x8	5,900		376a
377	W, Wisc., 900C	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 12	40x2½-56x3	L	Own		I, Smith	150	36x4-36x8	5,000	25, 75	377
378	W, Timken, 6560	Y	B	2, R	12½, 9½	E, E	R, Own	½, ½	Perfection	11, 12	40x2½-52x3	L	Ross		W	152	36x4-36x7	4,600	60, 80	378
379	I, Clark, 2D	Y	B	4, FR	12½, 12	C, E	R, Own	½, ½	Mather	11, 15	40x2½-48x2½	L	Lavine	62, 0	I, Own	150	34x5-36x6	4,800	30, 60	379
380	W, Sheldon			2, R		E, E	P, Smith	½, ½					Lavine		W	156	36x4-36x6			380
381	W, Timken			2, R		E, E	P, Parish	½, ½	Delaney			L	Ross		W, Archibald	144	36x3½-36x7			381
381a	W, Sheldon, W1500	Y	W	2, R	11½, 9½	E, E	P, Parish & B	½, ½	Mather	12, 15	39x2½-54x3	L	Ross	60, 0	S, Dayton	156	36x6-36x8	5,650	30, 60	381a
382	I, Own			2, F		C, E	R, Own	½, ½	Spring Perch			R	Gemmer		W, Archibald	144	48x3½d-48x3½d			382
383	W, Timken	N	W	2, R	14, 12	C, E	P	½, ½	Higgins	9, 15	40x2½-52x3½	L	Lavine	48, 0	W, Bimel	144	36x5-36x8	4,200	30, 75	383
384	B, Own			2, R		C, C		½, ½					Own			132	36x6-36x6			384
384a	I, Russel, RI300	Y	B	2, R	12½, 13½	C, E	P, Detroit	½, ½	Mather	9, 11	40x2½-56x3	L	Lavine	51, 0	I, Smith	143	36x4-36x8	5,000	—, 90	384a
384b	I, Russel, U	Y	B	2, R	12, 13	C, E	P, Detroit	½, ½	Detroit	10, 14	44x2½-52x3½	L	Ross	57, 1	I, Smith	149½	36x4-36x7	4,920	52, 79½	384b
384c	W, Wisconsin			2, R				½, ½	Own				Ross			136	36x5-36x8	4,750		384c
385	W, Sheldon			2, R		E, E	R, Own	½, ½	Own			L	Ross		I, Smith	144	36x4-36x8			385
386	B, Own	Y	B	4, FR	9¾, 9¾	C, C	P, Parish & B	½P, ½P	Tuthill	10, 12	45½x2½-44x2½	R	Ross	51, 0	W, Schwars.	124	36x6-36x6	6,400	38, 55	386
387	I, Clark, 2D	Y	B	2, R	10, 13½	C, E	P	½, ½	Perfection	9, 14	40x2½-54x3	L	Jacox	45, 0	S, Clark	152½	36x6p-42x9p	5,350	50, 75	387
388	W, Sheldon, W21	Y	B	2, R		E, C	P	½, ½	U. S	11, 13	40½x2½-50½x3	L	Ross	39, 6	I, Smith		36x4-36x10		50, 80	388
389	I, Own			2, R				½, ½	Own				Own		Opt		40x7-Opt	6,000		389
390	W, Own	N	S	2, R	10½, 9½	C, E	R, Own	½, ½		11, 12	42½x3-46x3	L	Own	56, 0	I	156	36x5-36x5d	7,000	52, 72	390
391	W, Own	N	B	2, R	12, 9	C, E	P	½, ½		9, 14	42x3-54x3	R	Ross	55, 0	S	150	36x5-36x5d	6,900	62, 75	391
392	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	158	34x5-36x5d	5,900	—, 62	392
393	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	170	38x7p-42x9p	5,550	—, 61	393
393a	W, Sheldon	N	W	2, R	11, 9½	E, E	P, Detroit	½, ½	Sheldon	9, 14	42x2½-54x3	L	Lavine	52, 0	W, Bimel	156½	36x5-36x5d	6,000	48, 67	393a
393b	W, Sheldon, W21	Y	B	2, R	12, 9½	E, E	P	½, ½	Sheldon	9, 12	42x2½-54x3	L	Lavine	50, 0	W, Schwars	156	36x4-36x4d	5,500	49, 86	393b
394	W, Sheldon, W21	Y	W	2, R	10½, 9	E, E	P	½, ½	Sheldon	10, 11	42x3-58x3½	L	Gemmer	46, 2	I, Smith	175	36x5-36x5d	6,370	40, 70	394
395	I, Own	Y	W	2, R	14, 14	C, C	P	½, ½	Perfection		48x3-52x4	L	Ross	48, 0	S, Dayton	168	38x7p-42x9p	6,000	50, 75	395
396	I, Own	N	BS	2, R	10½, 10½	C, E	R	½, ½				L	Own	61, 0	S	174	36x5-40x5d	7,075	54, 70	396
397	W, Timken, 6660	Y	W	2, R	11, 10	E, E	P, Savage	½, ½	Detroit	10, 14	42x3-56x3½	L	Ross		I, Smith	180	36x5-36x5d	6,600	—, 76	397
398	W, Timken, 6660	N	B	2, R	8, 9½	E, E	P, Smith	½, ½	Detroit	11, 14	42x3-54x3½	L	Ross	58, 0	W, Bimel	168	36x5-40x10	6,600	50, 70	398
398a	W, Sheldon, W31	N		2, R		E, E	R, Own	½, ½	Sheldon	12, 17	46x3-60x3½	L	Ross		W	160	36x5-36x5d		55, 75	398a
399	W, Timken			2, R		C, E	P, Parish	½, ½	Tuthill			L	Ross		S, Clark	166	36x6-36x10			399
400	W, Timken, 6660	N	W	2, R	10, 9	C, E	R	½, ½	Mather	8, 13	48x3-60x3	L	Ross	58, 0	W, St. Marys	156	36x5-36x5d	7,200	60, 80	400
401	W, Timken, 6652	Y	B	2, R		E, E	P	½, ½	Spring Perch	11, 14	41½x3-56x3½	R	Gemmer	59, 10	W, Archibald	167½	36x5-40x5d	6,720		401
402	W, Timken, 6652	N	W	2, R	9, 10	E, E	R, Own	½, ½	Tuthill	9, 12	42x3-54x3½	L	Ross		W, Schwars.	176	36x5-40x5d	6,500	55, 75	402
403	I, Clark	N	B	2, R	11, 11	C, E	R	½, ½	Mather	8, 12	44x3-56x3½	L	Lavine	64, 0	S, Clark	160	36x5-40x5d	6,800	50, 80	403
404	W, Timken, 6660	N	B	2, R		E, E	P, Parish	½, ½	Merrill	12, 15	44x2½-52x3½	L	Gemmer		I, Smith	164	36x5-36x5d	6,430	60, 82	404
405	W, Wisc., 900D	Y	B	2, R	11½, 9	E, E	R	½, ½	SpringPerch		42x3-56x3½	L	Ross	56, 0	S, Detroit	168	36x5-36x10	6,400	55, 80	405
406	W, Timken, 6660	Y	B	2, R	9½, 8½	E, E	R, Own	½, ½	Mather	10, 15	40x2½-54x3	L	Gemmer		W, Standard	168	36x5-36x10	6,850	60, 75	406
407	W, Timken, 6652	N	B	2, R	14½, 10½	E, E	P, Parish & B	½, ½	Perfection	9, 13	44x3-54x3½	L	Ross	62, 0	I, Smith	170	36x5-40x5d	6,600	60, 78	407
408	W, Own	Y	B	2, R	11½, 10½	E, E	R, Savage	½, ½	Perfection	8, 15	44x3-56x3½	L	Ross	60, 0	W, Prudden	160	36x5-36x10	6,450	50, 80	408
409	W, Sheldon, W31	Y	B	2, R	11, 9	E, E	P, Savage	½, ½	Iron City	11, 17	42x2½-56x3	L	Gemmer	59, 0	W, Jones	165	36x5-36x5d	5,750	60, 70	409
411	W, Timken, 6660	Y	W	2, R		E, E	P, Smith	½, ½	Mather	8, 15	46x3-56x3	R	Gemmer		S	170	36x5-36x5d	7,250	50, 90	411
412	W, Timken, 6652	Y	W	2, R	9½, 9	E, E	P, Smith	½, ½	Rowland	9, 15	42x3-56x4	L	Ross	60, 0	I, Smith	154	36x5-36x10	6,750	86, 70	412
413	I, Own	N	S	4, FR	15, 15	C, C	P, Parish & B	½, ½	Tuthill	6, 8	41½x3-41½x3	L	Wohlrab.	60, 0	W, Prudden	130	36x8-36x8	3,800	40, 60	413
414	W, Timken			2, R			P	½, ½								168	36x5-40x5d			414
415	W, Timken, 6652	N	B	2, R	14½, 8½	E, E	P, Own	½, ½	Mather	7, 13	44x3-60x3½	L	Ross	59, 8	W, Prudden	172	36x5-36x5d	7,300	53, 69	415
416	W, Timken, 6660	N	B	2, R	10, 8	E, E	P, Detroit	½, ½	Mather	8, 12	44x3-56x3½	L	Gemmer	48, 10	I, Smith	156	36x5-36x5d	7,000	62, 75	416
417	W	N	B	2, R		E, E	P	½, ½		9, 14	48x3-56x3½	L	Ross		W	128	36x5-40x5d	7,235		417
418	W	Y	B	2, R		E, E	P	½, ½		9, 17	42x3-56x3½	L	Ross	58, 0	I	162	36x5-36x5d	7,550		418
419	W, Timken, 6652	Y	W	2, R	9, 10½	E, E	P	½, ½	Detroit	10, 14	44x3-58x4	L	Ross	46, 0	W, Prudden	162	36x5-40x5d	7,000	50, 20	419
419a	W, Sheldon, W31	Y	B	2, R	10, 11½	E, E	R, Own	½, ½	Tuthill	11, 12	42x3-54x3½	L	Ross	62, 0	I, Smith	170	36x5-40x12	8,000	50, 85	419a
420	W, Sheldon, W30	Y	B	2, R	10, 8½	E, E	R	½, ½	Sheldon	9, 15	44x3-60x4	R	Ross		W, Wayne	176	36x5-36x5d	6,000	40, 70	420
421	W, Timken, 6652	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Detroit	10, 12	44x3-54x4	L	Jacox	55, 0	S, Own	163	36x5-40x5d	7,540	56, 75	421
422	W, Standard	Y	B	2, R		E, E	P, Own	½, ½	Perfection		46x3-62x3½	L	Ross	61, 0	S, Smith	156	36x5-40x5d	8,350	76, 91½	422
423	W, Timken, 6652	Y	W	2, R	9, 8	E, E	R	½, ½	Detroit	12, 16	45x2½-54x3½	L	Gemmer		I, Smith	144	36x5-36x5	6,825	25, 80	423
424	W, Sheldon			2, R		E, E	R, Own	½, ½	Sheldon			L	Ross		W, Schwars.	160	36x5-36x5d			424
424a	I, Clark	Y		2, R		C, E	P	½, ½		12, 16	39x3-56x4	L	Ross	67, 0	S	174	38x7p-44x10p	7,000	56, 80	424a
425	W, Timken			2, R				½, ½	Tuthill				Ross		W	160	36x5-36x5d			425
426	W, Hindley			2, R		E, C	P, Savage	½, ½	Perfection				Ross		W, Wayne	156	36x5-36x5d			426
427	W, Sheldon, W31	N	B	2, R	11½, 8½	E, E	R	½, ½	Sheldon	9, 14	40x3-50x3½	L	Wohlrab.	54, 0	I, Smith	160	36x5-36x5d	7,150	66, 75	427
428	I, Own		B	2, R		E, E	P	½, ½		10, 14	42½x3-57½x4	L	Own		W	162	36x5-40x10	7,500	50, 68	428
429	B, Own			4, FR		E, C	P, Castle	½, ½	Spring Perch			R	Ross		W, Standard	150	36x7-36x7			429
430	I, Clark, 3D	Y	B	2, R	11½, 12	C, E	P	½, ½	Perfection	11, 13	46x3-62x3½	L	Jacox	62, 6	S, Dayton	165	36x5-36x10	7,510	50, 75	430
431	W, Sheldon, W31	N	W	2, R	10, 9½	E, E	R	½, ½	Sheldon	9, 14	42½x3-56x3½	L	Ross	36, 0	I, Smith	160	36x5-36x5d	8,000	—, 80	431
432	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	11, 15	46½x3-54x3	L	Gemmer	56, 0	W	150	36x5-36x5d	9,285	50, 90	432
433	I, Clark	N	B	2, R	9½, 13½	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	433
434	W, Standard	N	B	2, R	9½, 11	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	434
435	W, Sheldon, W30	Y	W	2, R	10½, 8½	E, E	P, Smith	½, ½	Mather	11, 12	44x3-62x3½	L	Ross	50, 0	I, Smith	168	36x5-36x5d	7,200	57½, 74½	435
436	W, Timken, 6652	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 14	44x3-52x3	R	Ross		W, W't'rh'se	163	36x5-36x10	7,200	50, 75	436
437	W, Timken, 6652	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	8, 12	42x3-52x3½	L	Lavine	66, 4	S, Standard	172	36x5-40x10	6,500		437
438	W, Sheldon, W30	Y	B	2, R	14, 9	E, E	P, Parish & B	½, ½	Merrill	10, 15	44x3-56x3½	L	Ross		W, Hoopes	160	36x5-36x5d	6,850	44, 88	438

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5,000 (Titan)—7,000 (Larrabee) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	5,000 Pounds—Con.																			
365	Titan	3,400	Buda, HTU	4	4½x5½-28.9	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, AU	N	M & E	365
366	Tower, H	3,475	Continental, C4	4	4½x5½-27.2	S	Pierce	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N		366
366a	Transport, 50	2,785	Buda, HTU	4	4½x5½-28.9	F	Duplex	P	C	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	Hartford	366a
367	Traylor, D	3,375	Buda, MTU	4	4½x5½-28.9	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 4	Covert	N		367
368	Triangle, B	2,950	Waukesha, FU,	4	4x5½-25.6	FS	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Detroit	368
369	Ultimate, B	3,750	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	369
370	Union, F	3,150	Wisconsin, TAU	4	4x6-25.6	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	370
371	United, B	3,150	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			371
372	Vulcan, 25	3,750	Wisc., UAU	4	4½x6-28.9	F	Pierce	P	T	Y	Zenith	G	M, Eisemann	N	M, Brown-L,50	S, 4	Brown-L, 50	N	Spicer	372
373	Walker-Johnson, B	3,500	Buda, HU	4	4½x5½-28.9	F	Pierce	P	T		Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L	N	Spicer	373
374	Ward LaFrance, 2B	3,590		4	4½x5½-30.6	F		P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	M & E	374
375	Watson, 19		Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	T, R'e-T'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	375
375a	White Hickory, K	3,350	Continental, C2	4	4½x5½-27.2	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	M & E	375a
376	Wichita, R	3,000	Waukesha, BX	4	3½x5½-22.5	P	Waukesha	P	C, Perfex	Y	Stromberg	G	M		C	I, 4		N	Thermoid	376
376a	Wichita, RX	3,600	Beaver, JB	4	4½x6-28.9	P	Duplex	P	C, E & M	Y	Stromberg	G	M		C	I, 4		N	Thermoid	376a
377	Wilcox, C		Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		377
378	Wilson	3,150	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Thermoid	378
379	Winther, 450	3,690	Wisconsin, EAU	4	4x5-25.6	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU5	N	Peters	379
380	Wisconsin, C	2,850	Waukesha	4	4x5½-25.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			380
381	Witt-Will, P	2,950	Continental	4	4½x5½-27.2		Pierce	P	C, Modine		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	381
	6,000 Pounds:																			
381a	Ace	3,650	Buda, HU	4	4½x5½-28.9	FS	Pierce	P	C, Modine	Y	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller	N	M & E	381a
382	A & B, 3T	4,500	Own	4	5½x4½-42.8		N	P	T, Bush		Schebler		M, Bosch	N	N	* 2	*		Franck	382
383	Beck, D	3,500	Continental	4	4½x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	383
384	Beech Creek, 3A	3,850	Waukesha	4	4½x5½-28.9		Waukesha	P			Master		M, Eisemann		M, Fuller	S, 3	Fuller			384
384a	Bethlehem, H	2,795	Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, GU	N	Universal	384a
384b	Denby, 25	3,600	Continental, C2	4	4½x5½-27.2	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	348b
384c	Douglas, I	3,500	Buda	4	4½x5½-28.9		Pierce	P	T, Own		Schebler		M, Eisemann		M, Fuller	S, 4	Fuller		Arvac	384c
385	Forschler, BX	3,450	Continental	4	4½x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 4	Fuller		Own	385
386	FWD, B	4,900	Wisconsin, A	4	4½x5½-36.1	FS	Pierce	P	T, MoCord	N	Stromberg	G	M, Eisemann	N	M, Hele-Shaw	I, 3	Cotta, DAF	N	Blood	386
387	Jumbo, 30	3,950	Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	387
388	Kimball, K	4,400	Wisconsin, AU	4	4½x5½-36.1	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	388
389	MacDonald, A	5,750	Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own		Stromberg	G	M, Splitdorf		M, Brown-L	S, 4	Brown-L		Own	389
390	Packard, ED	4,900	Own	4	4⅝x5½-28.0	F	Own	P	C, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther.-Sp.	390
391	Riker, B	4,600	Own	4	4½x6-28.9	S	Own	P	T	N	Own	G	M, Berling	N	C, Own	S, 4	Own	N	Own	391
392	Rowe, GSW (4-cyl.)	4,150	Wisconsin	4	4x6-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M. Brown-L	S, 4	Brown-Lipe	N	Spicer	392
393	Rowe, GPW (8-cyl.)	5,250	Pittsburgh	8	3½x5-35.2	F	N	P	C, Fedders		Zenith	G	Atwater-K	Y	M, Brown-L	S, 4	Brown-Lipe	Y	Spicer	393
393a	Stoughton, F	3,600	Hercules, MU2	4	4½x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Thermoid	393a
393b	U. S., R		Hink'y, HAA400	4	4x5½-25.6	F	Hinkley	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Blood	399b
394	Vim, 23	3,950	Hercules	4	4½x5½-28.9	F	Duplex	P	T, MoCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	394
395	Walter (N. Y.), T		Waukesha, CU	4	4½x5½-30.6	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Brown-L, 50		M & E	395
396	White, 40	4,500	Own	4	3½x5½-22.5	F	Own	P	T, Own	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	396
	7,000 Pounds:																			
397	Acason, L	4,500	Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Detlaff, H5	I, 4	Cotta, R	Y	Blood	397
398	Acme, C	4,050	Continental, E7	4	4½x5½-32.4	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	N	Blood	398
398a	Aetna	4,375	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, S	N	Spicer	398a
399	All-Power, SV4	5,800	Continental	4	4½x5½-32.4		Pharo	P	T, MoCord		Zenith		M, Eisemann	Y	M, Detlaff	I, 3	Cotta		Universal	399
400	Armleder, KW		Buda, YTU	4	4½x6-32.4	F		P	T, Long	N	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	400
401	Atterbury, 7D	4,175	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	401
402	Available, H3½	4,475	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Ther.-Sp.	402
403	Belmont, D	3,550	Buda, YU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, G	N	Sterling	403
404	Brockway, R2	4,100	Continental, E4	4	4½x5½-32.4	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	404
405	Capital, M3½	4,150	Wisc., UAU	4	4½x6-28.9	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Detlaff	I, 4	Cotta	N	Thermoid	405
406	Chicago, C3½	3,800	Hercules, MU3	4	4½x5½-32.4	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Peters	406
407	Clydesdale, 90C	4,400	Own	4	4½x5½-32.4	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	407
408	Dart, W	4,000	Buda, YU	4	4½x6-32.4	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, HU	Y	Spicer	408
409	Day-Elder, F	3,750	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 50	N	Hartford	409
411	Diamond T, K	3,925	Hinkley	4	4½x5½-28.9	FS	Unit Mot	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 4	Covert	N	Spicer	411
412	Dorris, K7	4,400	Own	4	4½x5½-28.9	F	Own	P	T, MoCord	Y	Stromberg	G	M, Bosch	N	M, Warner	S, 4	Warner, T53	N	Spicer	412
413	Duplex, E	4,250	Buda, TU	4	4½x5½-28.9	S	Duplex	P	T, Long	N	Schebler	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Peters	413
414	Erie		Continental	4	4½x5½-32.4		Pierce		T		Stromberg		M, Bosch			S, 4				414
415	Fageol	5,000	Waukesha, DU	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	415
416	Federal, WE	3,950	Continental, E4	4	4½x5½-32.4	S	Pharo	P	T, MoCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner	N	Spicer	416
417	Garford, 77C	4,300		4	4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		417
418	Garford, 77D	4,190		4	4½x6-32.4	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		418
419	Gary, KL	4,150	Buda, YTU	4	4½x6-32.4	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	419
419a	Gersix, L	4,500	Buda, YTU	4	4½x6-32.4	F	Monarch	P	C, Ideal	N	Stromberg	G	M, Bosch	N	P, Borg & B	I, 4	Cotta, S	N	Blood	419a
420	Giant, 17	4,150	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	C, Own	Y	Stromberg	G,K	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N		420
421	GMC, 71A		Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	421
422	Gramm-Bernstein, 35	4,375	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	422
423	Hall	4,100	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	423
424	Harvey, WHA	4,300	Buda	4	4½x6-32.4		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	424
424a	Hawkeye, N		Buda, YTU	4	4½x6-32.4	F	Simplex	P	C	N	Zenith	G	M, Eisemann	Y	M, Fuller	I, 4	Cotta	Y	Hartford	424a
425	Hendrickson	3,800	Buda	4	4½x5½-28.9		Pierce	P	T, Chicago		Stromberg		M, Dixie	N	M, Fuller	S, 4	Fuller			425
426	Hurlburt, C	4,400	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50			426
427	Indiana, 35	3,750	Own	4	4½x5½-30.6	F	Pierce	P	T, MoCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	427
428	International, L	4,500	Own	4	4½x5-28.9	FS	Own	T	T, Long, MoC	Y	Ensign	G	M, Dixie	N	M, Own	S, 4	Brown-L	N	Own	428
429	Jackson, C1920	4,250	Continental	4	4½x5½-32.4		Pierce	P	T, Long		Stromberg		M, Eisemann		P, Borg & B	S, 4	Own		Spicer	429
430	Jumbo, 35	4,550	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	430
431	Kalamazoo, K		Wisconsin, UAU	4	4½x6-28.9	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	431
432	Kelly-Sp'gf'ld, K40(ch'n)	4,400	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C	S, 3	Covert, K	N	Own	432
433	Kelly-Sp'gf'ld, K41 (int.)		Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	433
434	Kelly-Sp'gf'ld, K42(w'm)		Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	434
435	Kissel, Heavy Duty	4,475	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	435
436	Kleiber, C	4,900	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'rn'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	436
437	K-Z	4,400	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	437
438	Larrabee SL		Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	438

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TRUCK SPECIFICATIONS

5,000 (Titan)—7,000 (Larrabee)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
365	I, Clark, 2D	N	B	2, R	11, 14	E, C	P, Parish & B.	½, ½	Sheldon	9, 11	46x2½-54x3	L	Wohlrab.	38, 0	W.	156	34x4-36x4d	4,975	51, 78	365
366	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		44x2½-56x3	L	Ross		W, Prudden	146	36x4-36x7	5,230	—, 75	366
366a	I, Clark, 2D	Y	B	2, R	11½, 13	C, E	P, Detroit	½, ½	Detroit	9, 13	40x2½-54x3	L	Jacox		W	150	36x4-36x7	4,250	30, 70	366a
367	W, Sheldon, W21	Y	W	2, R		E, E	P, Savage	½, ½			40x2½-52x3	L	Ross		W, Schwars.	150	36x43-6x7	5,500		367
368	I, Clark, 2D	Y	B	2, R	13, 11	C, C	R	½, ½	Detroit	10, 12	42½x2½-54x3	L	Gemmer	56, 0	W, Royer	151	36x4-36x7	4,900	60, 80	368
369	W, Sheldon, W21	N	B	2, R	10, 9½	E, E	P	½, ½	Sheldon	10, 16	39x2½-52x3	L	Ross	49, 0	W	154	36x4-36x4d	5,340	50, 70	369
370	I, Russel, T	Y	B	2, R	13, 16	C, E	P, Own	½, ½	Mather	8, 14	44x2½-56x3	L	Ross		W, Prudden	152	36x5-36x8	5,100	50, 70	370
371	I, Clark, 2D			2, R		E, C	P, Detroit	½, ½	Detroit				Jacox		W	151	36x4-36x7			371
372	W, Sheldon	N		2, R		E, E	P	½, ½			45x2½-55x3	L	Ross		I, Smith	148	36x4-36x8			372
373	W, Timken	Y		2, R		E, E	P	½, ½	SpringPerch	8, 16			Ross		W	150	36x4-36x8	5,200	—, 70	373
374	W, Timken, 6560	N	W	2, R	12½, 9½	E, E	P, Detroit	½, ½	Merrill		40x2½-54x3	L	Ross		W	158	36x4-36x4d	5,400	—, 85	374
375	W, Empire, O	Y	B	2 R	11, 10	E, E	P, Parish	½, ½	Sheldon		42x2½-54x3	L	Gemmer		W, Crane	156	36x4-36x7			375
375a	W, Timken, 6560	Y	W	2, R	12, 9½	E, E	P, Parish & B.	½, ½	Sheldon	8, 12	44x2½-56x3	L	Lavine	52, 0	W, Bimel	150	36x4-36x7	4,650	54, 78	375a
376	W, Sheldon	Y	B	2, R	11, 9½	E, E	P, Own	½, ½	Detroit		40x2½-56x3	R	Ross		S	144	36x4-36x7	4,500		376
376a	W, Sheldon	Y	B	2, R	11, 9½	E, E	P, Own	½, ½	Detroit		40x2½-56x3	R	Ross		S	160	36x4-36x8	5,900		376a
377	W, Wisc., 900C	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 12	40x2½-56x3	L	Own		I. Smith	150	36x4-36x3	5,000	25, 75	377
378	W, Timken, 6560	Y	B	2, R	12½, 9½	E, E	R, Own	½, ½	Perfection	11, 12	40x2½-52x3	L	Ross		W	152	36x4-36x7	4,600	60, 80	378
379	I, Clark, 2D	Y	B	4, FR	12½, 12	C, E	R, Own	½, ½	Mather	11, 15	40x2½-48x2½	L	Lavine	62, 0	I, Own	150	34x5-36x6	4,800	30, 60	379
380	W, Sheldon			2, R		E, E	P, Smith						Lavine		W	156	36x4-36x6			380
381	W, Timken			2, R		E, E	P, Parish		Delaney			L	Ross		W, Archibald	144	36x3½-36x7			381
381a	W, Sheldon, W1500	Y	W	2, R	11½, 9½	E, E	P, Parish & B.	½, ½	Mather	12, 15	39x2½-54x3	L	Ross	60, 0	S, Dayton	156	36x6-36x8	5,650	30, 60	381a
382	I, Own			2, F		C, E	R, Own		Spring Perch			R	Gemmer		W, Archibald	144	48x3½d-48x3½d			382
383	W, Timken	N	W	2, R	14, 12	C, E	P	½, ½	Higgins	9, 15	40x2½-52x3½	L	Lavine	48, 0	W, Bimel	144	36x5-36x8	4,200	30, 75	383
384	B, Own			2, R		C, C							Own			132	36x6-36x6			384
384a	I, Russel, RI300	Y	B	2, R	12½, 13½	C, E	P, Detroit	½, ½	Mather	9, 11	40x2½-56x3	L	Lavine	51, 0	I Smith	143	36x4-36x8	5,000	—, 90	384a
384b	I, Russel, U	Y	B	2, R	12, 13	C, E	P, Detroit	½, ½	Detroit	10, 14	44x2½-52x3½	L	Ross	57, 1	I, Smith	149½	36x4-36x7	4,920	52, 79½	384b
384c	W, Wisconsin			2, R					Own				Ross			136	36x5-36x8	4,750		384c
385	W, Sheldon			2, R		E, E	R, Own	½, ½	Own			L	Ross		I. Smith	144	36x4-36x8			385
386	B, Own	Y	B	4, FR	9¾, 9¾	C, C	P, Parish & B.	½, ½	Tuthill	10, 12	45½x2½-44x2½	R	Ross	51, 0	W, Schwars.	124	36x6-36x6	6,400	38, 55	386
387	I, Clark, 2D	Y	B	2, R	10, 13½	C, E	P	½, ½	Perfection	9, 14	40x2½-54x3	L	Jacox	45, 0	S. Clark	152½	36x6p-42x9p	5,350	50, 75	387
388	W, Sheldon, W21	Y	B	2, R		E, C	P	½, ½	U. S	11, 13	40½x2½-50½x3	L	Ross	39, 6	I. Smith		36x4-36x10		50, 80	388
389	I, Own			2, R				½, ½	Own				Own		Opt		40x7-Opt	6,000		389
390	W, Own	N	S	2, R	10½, 9½	C, E	R, Own	½, ½		11, 12	42½x3-46x3	L	Own	56, 0	I	156	36x5-36x5d	7,000	52, 72	390
391	W, Own	N	B	2, R	12, 9	C, E	P	½, ½		9, 14	42x3-54x3	R	Ross	55, 0	S	150	36x5-36x5d	6,900	62, 75	391
392	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	158	34x5-36x5d	5,900	—, 62	392
393	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	170	38x7p-42x9p	5,550	—, 61	393
393a	W, Sheldon	N	W	2, R	11, 9½	E, E	P, Detroit	½, ½	Sheldon	9, 14	42x2½-54x3	L	Lavine	52, 0	W, Bimel	156½	36x5-36x5d	6,000	48, 67	393a
393b	W, Sheldon, W21	Y	B	2, R	12, 9½	E, E	P	½, ½	Sheldon	9, 12	42x2½-54x3	L	Lavine	50, 0	W, Schwars	156	36x4-36x4d	5,500	49, 86	393b
394	W, Sheldon, W21	Y	W	2, R	10½, 9	E, E	P	½, ½	Sheldon	10, 11	42x3-58x3½	L	Gemmer	46, 2	I, Smith	175	36x5-36x5d	6,370	40, 70	394
395	I, Own	Y	W	2, R	14, 14	C, C	P	½, ½	Perfection		48x3-52x4	L	Ross	48, 0	S, Dayton	168	38x7p-42x9p	6,000	50, 75	395
396	I, Own	N	BS	2, R	10½, 10½	C, E	R	½, ½				L	Own	61, 0	S	174	36x5-40x5d	7,075	54, 70	396
397	W, Timken, 6660	Y	W	2, R	11, 10	E, E	P, Savage	½, ½	Detroit	10, 14	42x3-56x3½	L	Ross		I, Smith	180	36x5-36x5d	6,600	—, 76	397
398	W, Timken, 6660	N	B	2, R	8, 9½	E, E	P, Smith	½, ½	Detroit	11, 14	42x3-54x3½	L	Ross	58, 0	W, Bimel	168	36x5-40x10	6,600	50, 70	398
398a	W, Sheldon, W31	N		2, R		E, E	R, Own	½, ½	Sheldon	12, 17	46x3-60x3½	L	Ross		W	160	36x5-36x5d		55, 75	398a
399	W, Timken			2, R		C, E	P, Parish		Tuthill			L	Ross		S, Clark	166	36x6-36x10			399
400	W, Timken, 6660	N	W	2, R	10, 9	C, E	R	½, ½	Mather	8, 13	48x3-60x3	L	Ross	58, 0	W, St. Marys	156	36x5-36x5d	7,200	60, 80	400
401	W, Timken, 6652	Y	B	2, R		E, E	P	½, ½	Spring Perch	11, 14	41½x3-56x3½	R	Gemmer	59, 10	W, Archibald	167½	36x5-40x5d	6,720		401
402	W, Timken, 6652	N	W	2, R	9, 10	E, E	R, Own	½, ½	Tuthill	9, 12	42x3-54x3½	L	Ross		W, Schwars.	176	36x5-40x5d	6,500	55, 75	402
403	I, Clark	N	B	2, R	11, 11	C, E	R	½, ½	Mather	8, 12	44x3-56x3½	L	Lavine	64, 0	S, Clark	160	36x5-40x5d	6,800	50, 80	403
404	W, Timken, 6660	N	B	2, R		E, E	P, Parish	½, ½	Merrill	12, 15	44x2½-52x3½	L	Gemmer		I, Smith	164	36x5-36x5d	6,430	60, 82	404
405	W, Wisc., 900D	Y	B	2, R	11½, 9	E, E	R	½, ½	SpringPerch		42x3-56x3½	L	Ross	56, 0	S. Detroit	168	36x5-36x10	6,400	55, 80	405
406	W, Timken, 6660	Y	B	2, R	9½, 8½	E, E	R, Own	½, ½	Mather	10, 15	40x2½-54x3	L	Gemmer		W, Standard	168	36x5-36x10	6,850	60, 75	406
407	W, Timken, 6652	N	B	2, R	14½, 10½	E, E	P, Parish & B.	½, ½	Perfection	9, 13	44x3-54x3½	L	Ross	62, 0	I, Smith	170	36x5-40x5d	6,600	60, 78	407
408	W, Own	Y	B	2, R	11½, 10½	E, E	R, Savage	½, ½	Perfection	8, 15	44x3-56x3½	L	Ross	60, 0	W, Prudden	160	36x5-36x5d	6,450	50, 80	408
409	W, Sheldon, W31	Y	B	2, R	11, 9	E, E	P, Savage	½, ½	Iron City	11, 17	42x2½-56x3	L	Gemmer	59, 0	W, Jones	165	36x5-36x5d	5,750	60, 70	409
411	W, Timken, 6660	Y	W	2, R		E, E	P, Smith	½, ½	Mather	8, 15	46x3-56x3	R	Gemmer		S	170	36x5-36x5d	7,250	50, 90	411
412	W, Timken, 6652	Y	W	2, R	9½, 9	E, E	P, Smith	½, ½	Rowland	9, 15	42x3-56x4	L	Ross	60, 0	I, Smith	154	36x5-36x10	6,750	86, 70	412
413	I, Own	N	S	4, FR	15, 15	C, C	P, Parish & B.	½, ½	Tuthill	6, 8	41½x3-41½x3	L	Wohlrab.	60, 0	W, Prudden	130	36x8-36x8	3,800	40, 60	413
414	W, Timken			2, R			P									168	36x5-40x5d			414
415	W, Timken, 6652	N	B	2, R	14½, 8½	E, E	P, Own	½, ½	Mather	7, 13	44x3-60x3½	L	Ross	59, 8	W, Prudden	172	36x5-36x5d	7,300	53, 69	415
416	W, Timken, 6660	N	B	2, R	10, 8	E, E	P, Detroit	½, ½	Mather	8, 12	44x3-56x3½	L	Gemmer	48, 10	I, Smith	156	36x5-36x5d	7,000	62, 75	416
417	W	N	B	2, R		E, E	P	½, ½		9, 14	48x3-56x3½	L	Ross		W	128	36x5-40x5d	7,235		417
418	W	Y	B	2, R		E, E	P	½, ½		9, 17	42x3-56x3½	L	Ross	58, 0	I	162	36x5-36x5d	7,550		418
419	W, Timken, 6652	Y	W	2, R	9, 10½	E, E	P	½, ½	Detroit	10, 14	44x3-58x4	L	Ross	46, 0	W, Prudden	162	36x5-40x5d	7,000	50, 20	419
419a	W, Sheldon, W31	Y	B	2, R	10, 11½	E, E	R, Own	½, ½	Tuthill	11, 12	42x3-54x3½	L	Ross	62, 0	I, Smith	170	36x5-40x12	8,000	50, 85	419a
420	W, Sheldon, W30	Y	B	2, R	10, 8½	E, E	R	½, ½	Sheldon	9, 15	44x3-60x4	R	Ross		W, Wayne	176	36x5-36x5d	6,000	40, 70	420
421	W, Timken, 6652	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Detroit	10, 12	44x3-54x4	L	Jacox	55, 0	S, Own	163	36x5-40x5d	7,540	56, 75	421
422	W, Standard	Y	B	2, R		E, E	P, Own	½, ½	Perfection		46x3-62x3½	L	Ross	61, 0	S, Smith	156	36x5-40x5d	8,350	76, 91½	422
423	W, Timken, 6652	Y	W	2, R	9, 8	E, E	R	½, ½	Detroit	12, 16	45x2½-54x3½	L	Gemmer		I, Smith	144	36x5-36x5	6,835	25, 80	423
424	W, Sheldon			2, R		E, E	R, Own	½, ½	Sheldon			L	Ross		W, Schwars.	160	36x5-36x5d			424
424a	I, Clark	Y		2, R		C, E	P	½, ½		12, 16	39x3-56x4	L	Ross	67, 0	S	174	38x7p-44x10p	7,000	56, 80	424a
425	W, Timken			2, R				½, ½	Tuthill				Ross		W	160	36x5-36x5d			425
426	W, Hindley			2, R		E, C	P, Savage	½, ½	Perfection				Ross		W, Wayne	156	36x5-36x5d			426
427	W, Sheldon, W31	N	B	2, R	11½, 8½	E, E	R	½, ½	Sheldon	9, 14	40x3-50x3½	L	Wohlrab.	54, 0	I, Smith	160	36x5-36x5d	7,150	66, 75	427
428	I, Own		B	2, R		E, E	P	½, ½		10, 14	42½x3-57½x4	L	Own		W	162	36x5-40x10	7,500	50, 88	428
429	B, Own			4, FR		E, C	P, Castle		Spring Perch			R	Ross		W, Standard	150	36x7-36x7			429
430	I, Clark, 3D	Y	B	2, R	11½, 12	C, E	P	½, ½	Perfection	11, 13	46x3-62x3½	L	Jacox	62, 6	S, Dayton	165	36x5-38x10	7,510	50, 75	430
431	W, Sheldon, W31	N	W	2, R	10, 9½	E, E	R	½, ½	Sheldon	9, 14	42½x3-56x3½	L	Ross	36, 0	I. Smith	160	36x5-36x5d	8,000	—, 80	431
432	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	11, 15	46½x3-54x3	L	Gemmer	56, 0	W	150	36x5-36x5d	9,285	50, 90	432
433	I, Clark	N	B	2, R	9½, 13½	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	433
434	W, Standard	N	B	2, R	9½, 11	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	434
435	W, Sheldon, W30	Y	W	2, R	10½, 8½	E, E	P, Smith	½, ½	Mather	11, 12	44x3-62x3½	L	Ross	50, 0	I, Smith	168	36x5-36x5d	7,200	57½, 74½	435
436	W, Timken, 6652	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 14	44x3-52x3	R	Ross		W, W't'rh'se	163	36x5-36x10	7,200	50, 75	436
437	W, Timken, 6652	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	8, 12	42x3-52x3½	L	Lavine	66, 4	S, Standard	172	36x5-40x10	6,500		437
438	W, Sheldon, W30	Y	B	2, R	14, 9	E, E	P, Parish & B.	½, ½	Merrill	10, 15	44x3-56x3½	L	Ross		W, Hoopes	160	36x5-36x5d	6,350	44, 88	438

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7,000 (Maccar)—10,000 (GMC) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	7,000 Pounds—Con.																			
439	Maccar, M-2	4,500	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M. Eisemann	N	M, Brown-L, 50	S, 4	Brown-L, 50	N	Spicer	439
440	Mack, AC	4,950	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	440
441	Mapleleaf, CC		Hinkley, HA200	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M. Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	441
441a	Master, E (int)	4,640	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	441a
442	Master, A, (worm)	4,190	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	442
443	Menominee G	4,270	Continental, E4	4	4½x5½-32.4	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	443
444	National, IA		Waukesha, NU4R	4	4½x5½-32.4	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M. Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 50	N	Spicer	444
445	Nelson & LeMoon, F34		Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M. Bosch		M, Brown-Lipe	S, 4	Brown-L, 50		Thermoid	445
446	Noble, E7 0		Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 4	Warner, T53			446
447	Northway, B3	4,400	Own	4	4x6-25.6	FS	Pierce	P	C, G & O	Y	Stromberg	G	B	Y	M, Fuller	S, 4	Fuller, GU6	N	Spicer	447
447a	O. K., M	4,250	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T,R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller, H			447a
448	Old Reliable, C	4,000	Wisconsin, UU	4	4½x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	448
448a	Oneida, D9	4,345		4	4½x5½-32.4	F	Own	P	C, Moline	Y	Stromberg	G	M, Bosch	N	M	S, 4		N	Peters	448a
448b	Orleans	3,900		4	4½x6-32.4			P	T	N	Master	G	M, Eisemann	N	M	I, 4	Cotta			448b
449	Paige, 51-18	4,285	Hinkley, HA200	4	4½x5½-32.4		Simplex	P	T	Y	Stromberg	G	M, Bosch	N	M. Brown-L	S, 4	Brown-L	N	Spicer	449
450	Parker, J20		Wisconsin, VAU	4	4½x6-32.4	F	Monarch	P	T Bremer	Y	Stromberg	G	M. Bosch	Y	M. Brown-L	S, 4	Warner, T53	N	Kinsler-B	450
450a	Pierce-Arrow, W2	4,950	Own	4	4½x6½-32.4	F	Own	P	T	N	Stromberg	G	B, Delco	N	M	S, 4	Own	Y	Spicer	450a
450b	Powers, C		Hinkley, HA	4	4½x5½-32.4	F	Hinkley	P	T, G & O		Zenith	G	M, Eisemann		P, Detroit	S, 4	Fuller		Uni. Mch.	450b
451	Republic, 20	3,845	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, Own	N	Stromberg	G	M		M, Fuller	S, 4	Fuller, GU5	N	Hartford	451
452	Reynolds, 7A	4,800	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	452
453	Royal	4,200	Wisconsin	4	4½x6-32.4		Monarch	P	T, Kells		Stromberg		M. Bosch		P, Borg & B	I, 3	Own			453
454	Sandow, M	4,095	Continental, E4	4	4¼x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M. Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	454
455	Sanford, W35	4,200	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	455
456	Schacht	4,350	Buda, XTU	4	4½x6-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 4	Own	N	M & E	456
457	Selden, 3½A	4,325	Continental, E7	4	4½x5½-32.4	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	457
458	Service, 71	4,285	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	458
459	Service, 76	4,485	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	459
460	Signal, M	4,275	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	460
461	Standard, 66	4,000	Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	461
462	Sterling		Own	4	4½x6½-32.4	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	462
463	Stewart, 10	3,395	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU4	Y	Hartford	463
464	Sullivan, H	4,650	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Bush	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Spicer	464
465	Super, 70		Wisconsin, UAU	4	4½x6-28.9	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	465
466	Tiffin, PW	4,760	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	S, 4	Fuller, G	Y	Peters	466
467	Titan	4,550	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, R	N	M & E	467
468	Tower, G	4,400	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Own	N		G	M	N	M, Fuller	S, 4	Fuller, G	N		468
468a	Transport, 70	4,195	Buda, YTU	4	4½x6-32.4	F	Duplex	P	C	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Cotta, RU	N	Hartford	468a
469	Twin City (Minn'p'l's)		Own	4	4½x6-28.9	F	Own	P	C, Spirex	N	Schebler	G	M, Bosch	N	P, Borg & B	S, 4	Fuller, G5,	N	Spicer	469
469a	Twin City (St. Paul)	4,750	Wisconsin, JAU	4	5½x6-42.0	F	Pierce	P	C		Stromberg		K-W		M, Hele-Shaw	I, 3	Cotta			469a
470	United, C	3,975	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M. Bosch		M, Brown-L	S, 4	Brown-L, 35			470
471	Universal, L		Buda	4	4½x5½-28.9		Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			471
473	Victor, M	3,800	Continental, E4	4	4½x5½-32.4	FS		P	Own		Stromberg		M. Bosch		M, Brown-L	S, 4	Brown-Lipe			473
474	Walter, (Wis.), MO3		Own	4	4½x6-30.6	FS	Own	P	T, Own		Zenith		M. Swiss		C, Own	S, 4	Own			474
475	Ward LaFrance, 4A	4,690		4	4½x6½-32.4	F		P	T, Own	Y	Zenith	G	M. Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	475
476	Watson, 18		Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'r'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	476
477	Wichita, O	4,000	Beaver, JB	4	4½x6-28.9	F	Duplex	P	C, E & M	Y	Stromberg	G	M	N	M	I, 4		N	Thermoid	477
478	Wilcox, D		Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M. Bosch	N	C, Own	S, 4	Own	N		478
479	Wilson	3,950	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	479
480	Winther, 70	4,200	Wisconsin, TAU	4	4x6-25.6	F		P	T, Bremer	N	Master	G	M Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	480
	8,000 Pounds:																			
480a	American	4,575	Wisconsin	4	4½x6-32.4	F	Pierce	P	T, G & O		Stromberg	G	M, Eisemann		P, Detroit	S, 4	Covert		Acme	480a
481	Bessemer, K2	4,285	Continental, E7	4	4½x5½-32.4	S	Pierce	P	C, Standard	Y	Rayfield	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	481
481a	Bethlehem, J	3,995	Own	4	4½x5½-32.4	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Universal	481a
481b	Bridgeport, 4C	3,850	Buda, YTU	4	4½x6-32.4	FS	Pierce	P	T, Own		Stromberg	G	M, Eisemann		P, Borg & B	S, 4			Hartford	481b
481c	Denby, 27	4,600	Continental, E7	4	4½x5½-32.4	F	Duplex	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Own	S, 4	Fuller, G5	N	Universal	481c
481d	Double-Drive, B	4,000	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T		Zenith	G	M, Louraine		P, Borg & B	S, 4	Own		Own	481d
482	Gabriel, F	4,300	Buda, YU	4	4½x6-32.4	F	Duplex	P	T, G & O		Rayfield		M, Bosch		P, Borg & B	S, 4	Brown-L, 60			482
483	Highway-Knight, A		Moline-K. W	4	4x6-25.6	F		P	T, Own	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Own	N	Thermoid	483
484	Jumbo, 40	5,200	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	484
485	Kimball, E	4,975	Wisconsin, JU	4	5 1–10x5½-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	485
486	Moreland, 19G	4,975	Cont'l, Class B	4	4½x6-36.0	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	486
487	Packard, E	4,550	Own	4	4½x5½-32.4	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp.	487
488	Riker, BB	4,700	Own	4	4½x6-28.9	S	Own	P	T, Own	N	Ball & Ball	G	M, Berling	N	C, Own	S, 4	Own	N	Own	488
489	Rowe, HW	4,500	Wisconsin	4	4½x6-32.4	F	Simplex	P	C, Fedders		Zenith		M, Bosch			S, 4	Brown-L		Spicer	489
490	Union, H	3,975	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	490
490a	U. S. S		Hinkley, HA200	4	4½x5½-32.4	F	Hinkley	P	T, Long	Y	Stromberg	G	M. Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Blood	490a
490b	Ware, A	4,000		8	3½x5-39.2	FS	Pierce	P	T		Stromberg	G			M	S, 2			Own	490b
	10,000 Pounds:																			
491	Acason, M	5,450	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Detlaff, H8	I, 4	Cotta, S	Y	Blood	491
491a	Acme, E	5,150	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	N	Rayfield	G	M. Eisemann	N	P, Borg & B	I, 4	Cotta, T	N	Blood	491a
491b	Atterbury, 8F	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Zenith	G	B, M	Y	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	491b
492	Autohorse, 10	2,000	Continental	4	3½x5-22.5		N	P	C, Eureka		Stromberg		M, Eisemann	N	P, Borg & B	S, 3	Detroit			492
493	Available, H5	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Chicago	Y	Stromberg	G	M. Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer-Bld	493
494	A & B, 5T		Own	4	5½x3½-42.8		N	P	T, Bush		Schebler		M. Bosch		M, Brown-L	S, 4	Brown-Lipe			494
495	Bollstrom, A		Own	4	4½x5½-28.9			P	Own		Stromberg		M. Bosch		M	I, 4	Own		Own	495
496	Brockway, T	5,250	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	Y	Stromberg	G	M. Eisemann	N	M. Brown-L	S, 4	Brown-L, 60	N	Spicer	496
496a	Chicago, D5	4,600	Hercules	4	4½x5½-32.4	F	Simplex	P	T	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-Lipe	N	Peters	496a
497	Clydesdale, 120C	5,500	Own	4	4½x6-36.1	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	497
498	Couple-Gear, AC	6,700	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, F'sm'nn	N	†	† 6	Own		Own	498
499	Day-Elder, E	4,600	Buda, YU	4	4½x6-32.4	F	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 60	N	Hartford	499
500	Denby, 210	5,350	Continental, E7	4	4½x5½-32.4	F	Duplex	P	T, Long	Y	Stromberg	G	M. Eisemann	N	M, Own	S, 4	Warner, T53	N	Peters	500
501	Diamond T, S	4,800	Class B, U. S	4	4½x6-36.1	FS	Pierce	P	T, G & O	N	Stromberg	G	M. Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	501
501a	Diamond T, EL	4,615	Hinkley	4	4½x5½-32.4	FS		P	T, G & O	N	Stromberg	G	M, Bosch	N	M	S, 4			Spicer	501a
502	Fageol	5,300	Waukesha, DU	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	502
503	Federal, XE	4,600	Continental, E4	4	4½x5½-32.4	S	Pharo	P	T, McCord	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner	N	Spicer	503
504	Garford, 68	5,000		4	4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		504
505	Gary, M	5,150	Buda, BTU	4	5x6½-40.0	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	505
506	GMC, 101A		Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M. Eisemann	N	M, Own	S, 4	Own	N	Own	506

† Electric Transmission

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TRUCK SPECIFICATIONS

7,000 (Maccar)—10,000 (GMC)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
439	W, Timken, 6652..	N	B	2, R	9 9/16, 8½	E, E	P, Parish.....	½, ½	Merrill....	9, 14	42x2½-56x3½....	L	Ross.....	.....	S, Dayton..	174	36x5-36x5d.....	6,175	—, 70	439
440	C, Own.....	N	B	2, R	11½, 10¾	C, E	P, Own.....	½, ½	Merrill....	9, 10	46x3½-52x4....	L	Own.....	52, 6	W, Own....	Opt.	36x5-36x5d.....	8,070	46, 66	440
441	W, Sheldon, W31.	Y	B	2, R	10, 8¾	E, E	R, Own.....	½, ½	Sheldon....	—, 15	46x3-56x4.....	L	Ross.....	.....	W. Hayes..	160	36x5-36x5d.....	7,000	50. 70	441
441a	I, Walker.....	Y	BS	2, R	.....	C, E	P, Parish & B..	½, ½	Detroit....	12, 15	44x3-58x4.....	L	Ross.....	48, 0	S, Walker..	158	36x5-40x5d.....	7,000	58, 72	441a
442	W, Timken, 6652..	Y	B	2, R	11⅛, 10¾	E, E	P, Parish & B..	½, ½	Detroit....	12, 15	44x3-58x4.....	L	Ross.....	48, 0	S.....	158	36x5-40x5d.....	7,000	58, 72	442
443	W, Timken, 6652..	N	B	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	11, 11	44x2½-54x3½....	L	Ross.....	.....	W, Standard	160	36x5-36x5d.....	6,650	.....	443
444	W, Timken, 6560..	N	W	2, R	9¼, 10¾	E, E	R.....	½, ½	Mather....	9, 17	46x3-58x3½....	L	Ross.....	54, 0	W, Hayes..	158	36x5-40x5d.....	7,000	.....	444
445	W, Timken, 6652..	Y	.....	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	.....	.....	...	Lavine.....	.....	W, Prudden.	.....	36x5-36x5d.....	.....	.....	445
446	W' Sheldon, W30..	...	.....	2, R	.....	E, E	P, Slick-Knox..	½, ½	SpringPerch	.....	.....	...	Lavine.....	.....	W, Bimel..	166	36x5-36x5d.....	7,500	.....	446
447	W, Sheldon, W30..	Y	B	2, R	10, 10½	E, E	P, Parish & B..	½, ½	Perfection..	10, 12	44x3-56x4.....	L	Ross.....	50, 0	S, Clark....	160	36x5-40x5d.....	7,300	51½, 73	447
447a	W, Wisc., 900.....	...	.....	2, R	.....	E, E	P, Hydraulic..	½, ½	Liggett....	.....	.....	...	Ross.....	.....	W, Bimel..	154	36x5-36x5d.....	.....	.....	447a
448	W, Sheldon, W30.	Y	W	2, R	11⅛, 8½	E, E	R.....	½, ½	Sheldon....	10, 16	48x3-60x4.....	R	Ross.....	.....	W, St. Marys	160	36x5-36x5d.....	6,850	—, 77	448
448a	W.....	N	B	2, R	11, 8¾	E, E	P, Detroit.....	½, ½	Mather....	11, 12	44x3-56x3½....	L	Ross.....	.....	S.....	170	36x5-36x10.....	7,250	60, 85	448a
448b	W.....	N	.....	2, R	.....	E, E	R.....	½, ½	.....	.....	44x3-56x3½.....	...	Ross.....	.....	I. Smith...	166	36x4½-36x4d.....	.....	.....	448b
449	W, Timken.....	N	B	2, R	.....	E, E	P.....	½, ½	Perfection..	9, 14	46x3-58x4.....	L	Ross.....	.....	S. Dayton..	160	36x5-36x5d.....	7,000	60, 75	449
450	W, Own.....	N	B	2, R	14, 11	C, E	P, Smith.....	½, ½	Tuthill....	8, 16	51x3-60x3.....	L	Ross.....	64, 0	W, Bimel..	160	36x5-40x5d.....	6,300	55, 76½	450
450a	W.....	N	.....	2, R	.....	C, E	P.....	½, ½	SpringPerch	12, 15	41x3½-56x3½....	L	Own.....	.....	S, Dayton..	162	36x5-36x5d.....	8,350	—, 85	450a
450b	W, Wisconsin.....	...	.....	2, R	.....	...	.....	...	Rowland....	.....	.....	...	Ross.....	.....	W, St. M'rys	167	36x5-40x10.....	6,420	.....	450b
451	I, Torbensen, E1..	Y	W, Powrlok..	2, R	.....	C, E	P, Detroit.....	½, ½	Mather....	8, 13	44½x3-52½x4....	L	Jacox.....	.....	I, Smith...	165	36x5-36x10.....	6,400	.....	451
452	W, Sheldon.....	Y	B	2, R	9⅛, 9½	E, E	R, Standard..	½, ½	Perfection..	.....	44x3-56x3½.....	L	Lavine.....	.....	I, Smith...	156	36x5-36x5.....	.....	.....	452
453	W, Timken.....	...	.....	2, R	.....	E, E	R, Own.....	½, ½	Merrill....	.....	.....	...	Ross.....	.....	W.....	158	36x5-38x5d.....	.....	.....	453
454	W, Timken, 6652..	N	W	2, R	8¾, 8½	E, E	P, Savage.....	½, ½	Garden City	9, 17	44x3-56x3½....	R	Ross.....	40, 0	W, Standard	175	36x5 36x5d.....	6,650	20, 70	454
455	W, Sheldon, W30..	Y	W	2, R	10½, 8¾	E, E	P, Parish & B..	½, ½	Perfection..	9, 13	46x3-54x3½.....	L	Ross.....	50, 0	W, Hoopes..	174	36x5-36x5d.....	6,900	76, 87	455
456	W, Own.....	N	B	2, R	10½, 9	C, E	R, Own.....	½, ½	National...	9, 15	35x2½-50x3.....	L	Own.....	.....	W, St. Marys	168	36x5-36x5d.....	6,500	—, 70	456
457	W, Timken, 6652..	N	B	2, R	9¾, 8 17/16	E, E	P, Parish & B..	½, ½	Perfection..	10, 14	42x3-56x3½.....	R	Gemmer..	62, 0	S.....	162	36x5-36x10.....	7,200	60, 78	457
458	W, Timken, 6660..	N	B	2, R	9⅛, 7¾	E, E	P, Own.....	½, ½	Mather....	11, 13	46x3-60x3½.....	L	Ross.....	52, 0	S.....	171	36x5-36x5d.....	6,930	—, 72	458
459	W, Timken, 6660..	N	B	2, R	9⅛, 7¾	E, E	P, Own.....	½, ½	Mather....	11, 13	46x3-60x3½.....	L	Ross.....	52, 0	S.....	171	36x5-36x5d.....	7,280	—, 72	459
460	W, Timken, 6652..	N	B	2, R	11, 11	E, E	P, Savage.....	½, ½	Detroit....	11, 16	44x3-56x3½.....	L	Ross.....	61, 0	W, Hayes..	168	36x5-40x10.....	7,070	—, 84	460
461	W, Timken, 6660..	N	B	2, R	9½, 8½	E, E	P, Parish & B..	½, ½	Perfection..	10, 15	45½x3-52½x3½..	L	Gemmer..	.....	W.....	160	36x5-36x5d.....	6,480	57, 70	461
462	W, Timken, 6652..	N	B	2, R	11⅛, 10¾	E, E	P, W	½c, ½c	Mather....	8, 10	48x3-60x3½.....	L	Ross.....	53, 6	W, Prudden.	162	36x5-40x5d.....	8,300	53, 92	462
463	I. Clark, 3D.....	Y	B	2, R	10, 10	C, C	P, Hydraulic..	½, ½	Detroit....	10, 14	41x2½-54x4.....	L	Ross.....	52, 0	S, Clark....	165	36x5-36x5d.....	6,080	64½, 80½	463
464	W, Timken, 6652..	N	B	2, R	9½, 8½	E, E	P.....	½, ½	Sheldon....	9, 13	46x3-56x3½.....	L	Ross.....	58, 6	W, Wayne..	170	36x5-36x5d.....	6,000	50, 68	464
465	W, Sheldon, W30..	Y	B	2, R	12, 12¾	E, E	P.....	½, ½	Sheldon....	10, 11	44x3-58x4.....	L	Ross.....	50, 0	S.....	164	36x5-40x5d.....	7,300	.....	465
466	W, Sheldon, W31..	N	B	2, R	10, 9	E, E	R.....	½, ½	Kalamazoo..	9, 16	42x3-52x3½.....	L	Ross.....	62, 0	I, Smith....	160	36x5-40x5d.....	6,950	40, 60	466
467	I, Clark, 3.....	N	B	2, R	12, 16	E, C	P, Parish & B.	½, ½	Sheldon....	9, 11	48x3-60x3½.....	L	Lavine..	50, 0	S. Dayton..	156	36x5-40x5d.....	7,350	57, 80	467
468	W, Timken.....	N	B	2, R	10½, 10½	E, E	P.....	½, ½	Detroit....	.....	44x3-56x3½.....	...	Ross.....	.....	W.....	165	36x5-36x5d.....	7,010	—, 70	468
468a	I. Clark, 3D.....	Y	B	2, R	11, 11½	C, E	P, Detroit.....	½, ½	Detroit....	11,13	46x3-54x4.....	L	Jacox.....	.....	S, Clark....	170	36x5-36x10.....	7,150	20, 80	468a
469	W, Timken.....	N	.....	2, R	.....	E, E	R.....	½, ½	Mather....	.....	45x3-54x3½.....	L	Ross.....	.....	I, Smith...	168	36x5-40x5d.....	6,800	—, 80	469
469a	I.....	...	.....	4, FR	.....	...	.....	...	.....	.....	.....	...	Ross.....	.....	.....	140	36x6-36x6.....	.....	.....	469a
470	I, Clark, 3D.....	...	.....	2, R	.....	E, C	P, Detroit.....	½, ½	Detroit....	.....	.....	...	Lavine.....	.....	S.....	157	36x5-36x5d.....	.....	.....	470
471	C, Own.....	...	.....	2, R	.....	E, E	R.....	½, ½	Kalamazoo..	.....	.....	...	Lavine.....	.....	W.....	156	36x5-36x5d.....	.....	.....	471
473	W, Timken.....	...	.....	2, R	.....	...	.....	...	.....	.....	.....	...	Gemmer..	.....	.....	176	36x6-36x5d.....	.....	.....	473
474	E, Own.....	...	.....	4, FR	.....	C, C	R, Own.....	...	.....	.....	.....	...	Own.....	.....	S, Own....	108	40x4d-40x4d.....	.....	.....	474
475	W, Timken, 6652..	N	W	2, R	10½, 8 5/16	E, E	P, Detroit.....	½, ½	Merrill....	.....	46x3-60x3½.....	L	Ross.....	.....	I, Smith...	162	36x5-36x5d.....	7,750	—, 85	475
476	W, Empire, 12....	Y	B	2, R	12½, 6½	E, E	P, Parish.....	½, ½	Sheldon....	11, 12	44x3-56x3½.....	L	Gemmer..	.....	W, Crane..	168	36x5-36x10.....	6,950	.....	476
477	W, Sheldon, W30..	Y	B	2, R	10, 8¾	E, E	P, Own.....	½, ½	Detroit....	.....	46x2½-56x3.....	R	Ross.....	.....	S.....	165	36x5-36x5d.....	6,500	.....	477
478	W, Sheldon, W30..	Y	B	2, R	.....	E, E	P.....	½, ½	Own.....	10, 12	40x2¾-60x4.....	L	Own.....	.....	I, Smith...	154	36x5-36x5d.....	6,400	25, 75	478
479	W, Timken, 6652..	Y	B	2, R	9⅛, 8¾	E, E	R, Own.....	½, ½	Perfection..	11, 17	46x3-60x3½.....	L	Ross.....	.....	W.....	160	36x5-36x5d.....	6,800	60. 80	479
480	I, Clark, 3D.....	Y	B	2, R	11½, 12	C, E	R, Own.....	½, ½	Mather....	8, 10	46x3-56x4.....	R	Ross.....	62, 0	S, Clark....	150	36x5-36x5d.....	6,400	45, 80	480
480a	W, Wisconsin.....	...	.....	2, R	.....	...	.....	½, ½	SpringPerch	.....	.....	...	Lavine.....	.....	I, Smith...	158	36x5-36x5d.....	6,475	.....	480a
481	I, Torbensen, E...	N	B	2, R	11. 11	E, C	P.....	½, ½	Perfection..	10, 12	44x3-56x3½.....	L	Ross.....	.....	W, Schwarz	175	36x5-36x10.....	6,700	54, 69	481
481a	I, Torbensen.....	Y	B	2, R	12½, 14¾	C, E	P, Detroit.....	½, ½	Mather....	10, 14	44x2½-56x3½.....	L	Lavine..	55, 0	I, Smith...	162	36x5-36x5d.....	6,100	27, 90	481a
481b	W.....	...	.....	2, R	.....	...	.....	...	.....	.....	.....	...	Ross.....	.....	.....	170	36x10-36x10.....	9,000	.....	481b
481c	I, Clark, 3.....	Y	B	2, R	13½, 11½	C, E	P, Detroit.....	½, ½	Detroit....	10, 18	42x3-54x3½.....	L	Ross.....	56, 8	I, Smith...	170	36x5-36x5d.....	7,020	56, 78	481c
481d	W, Own.....	...	.....	2, R	.....	...	.....	½, ½	Own.....	.....	.....	...	Lavine.....	.....	W, Standard	130	36x6-36x6.....	.....	.....	481d
482	W, Timken, 6652..	...	.....	2, R	.....	E, E	P, Parish.....	½, ½	Merrill....	.....	.....	...	Gemmer..	.....	I, Smith...	180	36x5-40x5d.....	.....	.....	482
483	W.....	Y	.....	2, R	11, 10	E, E	P.....	½, ½	Sheldon....	.....	46x3-56x3½.....	L	Ross.....	.....	W, Schwarz.	159	36x5-36x6d.....	7,200	.....	483
484	I, Clark, 3D.....	Y	B	2, R	13½, 16¾	C, E	P.....	½, ½	Perfection..	10, 13	46x3-62x3½.....	L	Jacox.....	62, 6	S, Clark....	165	38x7p-44x10p.....	7,760	50, 75	484
485	W, Sheldon, W30..	Y	B	2, R	.....	E, E	P.....	½, ½	U. S.....	12, 16	45½x3-53½x3½..	L	Ross.....	39, 6	I, Smith....	.....	36x5-40x10.....	.....	50, 80	485
486	W, Timken, 6652.	N	W	2, R	9½, 11½	E, E	P.....	½, ½	U. S.....	9, 12	50x3-50x4.....	L	Ross.....	.....	I, Smith....	162	36x5-40x5.....	7,800	55, 67	486
487	W, Own.....	N	S	2, R	10½, 10½	C, E	R, Own.....	½, ½	.....	11, 14	42½x3-46x3.....	L	Own.....	56, 0	W.....	156	36x5-40x5d.....	7,460	55, 75	487
488	W, Own.....	N	B	2, R	12, 9	C, E	P.....	½, ½	.....	9, 17	42x3-54x3.....	R	Ross.....	55, 0	S.....	150	36x5-36x6d.....	7,200	63, 77	488
489	W, Sheldon.....	...	.....	2, R	.....	E, E	.....	½, ½	Sheldon....	.....	.....	...	Ross.....	.....	W, Hoopes	158	36x5-36x6d.....	6,370	—, 75	489
490	I, Torbensen, E...	Y	B	2, R	13, 12	C, C	P, Own.....	½, ½	Mather....	8, 15	42x3-56x4.....	L	Ross.....	.....	I, Smith...	171	36x6-36x10.....	.....	50, 70	490
490a	W, Sheldon, W31.	Y	B	2, R	11½, 8½	E, E	P.....	½, ½	Sheldon....	9, 10	44x3-56x3½.....	L	Lavine..	60, 0	W, Schwarz	168	36x5-36x5d.....	7,600	51, 85	490a
490b	B.....	...	.....	2, R	.....	...	.....	½, ½	Tuthill....	.....	.....	...	.....	.....	.....	135	Optional.....	.....	.....	490b
491	W, Timken, 6760..	Y	W	2, R	11, 10	E, E	P, Savage.....	½, ½	Detroit....	12, 18	42x3-56x4.....	L	Ross.....	.....	I, Smith...	187	36x6-40x6d.....	8,350	—, 77	491
491a	W, Timken, 6760..	N	B	2, R	9, 9½	E, E	P. Smith.....	½, ½	Detroit....	11, 17	44x3-56x4.....	L	Ross.....	64, 0	I, Smith...	180	36x6-40x12.....	8,800	50, 70	491a
491b	W, Timken, 6752..	N	B	2, R	.....	E, E	P.....	½, ½	Spring Perch	10, 12	41½x3-54x4.....	L	Gemmer..	59, 10	S, Dayton..	167	36x5-40x6.....	9,350	.....	491b
492	I, Own.....	...	.....	1, F	.....	C, E	R, Own.....	...	Champion..	.....	.....	...	Own.....	.....	W, Bimel...	43	34x10.....	.....	.....	492
493	W, Timken, 6752..	N	W	2 R	9, 10	E, E	R, Own.....	½, ½	Tuthill....	9, 15	44x3-60x4.....	L	Ross.....	.....	I, Smith...	190	36x6-40x12.....	9,500	55, 75	493
494	I, Own.....	...	.....	2, R	.....	C, C	R, Own.....	½, ½	Perfection..	.....	.....	...	Gemmer..	.....	W.....	144	48x3½d-48x5d.....	.....	.....	494
495	I, Own.....	...	.....	2, R	.....	C, C	R, Own.....	...	.....	.....	.....	...	Gemmer..	.....	S. Clark....	144	36x6-36x6.....	.....	.....	495
496	W, Timken, 6752..	N	B	2, R	.....	E, E	P, Parish.....	½, ½	Merrill....	12, 17	44x3-58x4.....	L	Gemmer..	.....	I. Smith...	174	36x6-40x6d.....	9,075	60, 90	496
496a	W, Timken, 6752..	Y	B	2, R	9, 10	E, E	R.....	½, ½	.....	.....	44x3-56x4.....	L	Gemmer..	42, 0	Optional...	167	36x6-40x12.....	8,110	56, 80	496a
497	W, Timken, 6752..	N	B	2, R	13½, 9¾	E, E	P, Parish & B.	½, ½	Perfection..	11, 18	44x3-56x4.....	L	Ross.....	58, 0	I, Smith...	176	36x6-40x6d.....	9,000	65, 76	497
498	B, Own.....	N	.....	4, FR	11, 11	E, E	R.....	½, ½	Tuthill....	12, 12	43x3-43x3.....	R	Own.....	36, 0	S, Own....	144	36x5-36x5.....	11,000	50. 50	498
499	W, Sheldon, W51.	Y	B	2, R	10½, 10½	E, E	P, Savage.....	½, ½	Iron City..	12, 13	48x3-60x4.....	L	Gemmer..	54, 0	I, Smith...	150	36x5-40x6d.....	8,250	60, 70	499
500	I, Clark, 5D	Y	B	2, R	13½, 13¾	E, C	P, Detroit.....	½, ½	Detroit....	10, 18	42x3-54x4.....	L	Ross.....	62, 0	S, Clark....	170	36x6-40x6d.....	8,590	58, 80	500
501	W, Timken, 6760..	Y	W	2 R	.....	E, E	P, Smith.....	½, ½	Mather....	10, 14	46x3-56x4.....	L	Gemmer..	.....	S.....	180	36x6-40x6d.....	8,790	50. 90	501
501a	W, Timken.....	Y	W	2 R	.....	E, E	P.....	½, ½	Mather....	10, 14	46x3-56x4.....	L	Gemmer..	.....	S.....	180	36x6-40x6d.....	8,790	50.90	501a
502	W, Timken, 6752..	N	B	2, R	14½, 10½	E, E	P, Own.....	½, ½	Mather....	9, 16	46x3-60x4.....	L	Ross.....	59, 8	W, Prudden.	172	36x6-40x6d.....	8,300	56, 73	502
503	W, Timken, 6760..	N	B	2, R	9, 10	E, E	R, Russel.....	½, ½	Mather....	8, 16	44x3-56x3½.....	L	Gemmer..	57, 0	I, Smith...	156	36x6-40x6d.....	8,100	65, 78	503
504	C.....	N	B	2, R	.....	C, E	P.....	½, ½	.....	10, 17	48x3-50x3.....	R	Ross.....	.....	I, Smith...	128	36x6-40x6d.....	8,870	.....	504
505	W, Timken, 6752..	Y	W	2, R	9, 10½	E, E	P.....	½, ½	Detroit....	13, 18	46x3-60x4.....	L	Ross.....	52, 0	S, Dayton..	182	36x6-40x6d.....	8,500	50, 20	505
506	W. Timken. 6752..	N	B	2. R	11½. 10	E. E	R. Own.....	½. ½	Detroit....	10. 16	44x3-54x4.....	L	Jacox....	55. 0	S. Own....	163	36x6-40x6d.....	8.485	56. 75	506

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10,000 (Gramm-Bernstein)—15,000 **INTERNAL-COMBUSTION**

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	10,000 Pounds—Con.																			
507	Gramm-Bernstein, 50	5,275	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	507
508	Hall (chain)	5,100	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	508
509	Hall (worm)	5,100	Continental, E4	4	4½x5½-32.4	FS	Simplex	T	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	509
510	Harvey, WKA	5,200	Buda	4	4½x6-32.4	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe			510
510a	Hendrickson, K	5,400	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P			Stromberg	G	M, Dixie		M	S, 4	Brown-L		Thermoid	510a
511	Highway-Knight, B		Moline-K., W	4	4x6-25.6	F		P	T, Own	N	Zenith	G	M, Eisemann	Y	M, Brown-L	S, 4	Own	N	Thermoid	511
512	Hurlburt, D	5,500	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60			512
513	Indiana, 50	4,775	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	513
514	Kelly-Springfield, K50	5,150	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	514
515	Kimball, F	5,975	Wisconsin, JAU	4	5½x6-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	515
516	Kissel, Goliath	5,085	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	516
517	Kleiber, D	5,600	Continental, T	4	5½x5½-44.1	S	Pierce	P	T, R'e-T'rn'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	517
517a	Koehler, MT	3,450	Hercules	4	4 x5½-25.6						Zenith	G	M, Eisemann		P	S, 3				517a
518	Larrabee, T		Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	518
519	Mack, AC	5,500	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	519
520	Mapleleaf, DD		Hinkley, HA1600	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, H	N	Blood	520
520a	Master, F (int)	5,540	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	520a
521	Master, B (worm)	5,290	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	521
522	Menominee, J	5,450	Wisconsin, A	4	4½x5½-36.1	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	522
523	Moreland, 19J	5,350	Cont'l, Class B	4	4½x6-36.1	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	523
524	National, JA		Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 60	N	Spicer	524
525	Nelson & LeMoon, F5		Continental, B2	4	4½x6-36.1	F	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Thermoid	525
526	Old Reliable, D	5,000	Wisconsin, J	4	5 1-10x5½-42.0	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, SD60	Y	Spicer	526
527	Oneida, E9	5,460		4	4½x5½-32.4	F	Own	P	C, Modine	Y	Stromberg	G	M, Bosch	N	M	I, 4		N	Peters	527
528	Parker, M20		Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Warner, T53-1	N	Kinsler-B	528
530	Pierce-Arrow, R9	5,700	Own	4	4½x6-38.2	F	Own	P	T, Own	N	Stromberg	G	M, Splitdorf	N	C, Own	S, 3	Own	Y	Own	530
531	Reynolds, 10A	5,800	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	531
532	Rowe, FW	5,500	Wisconsin, AU	4	4½x6-32.4	F	Simplex	P	C, Fedders		Zenith		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Spicer	532
533	Royal	5.000	Wisconsin	4	4½x5½-36.1		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			533
534	Sandow, L	4,775	Continental, E4	4	4½x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	534
535	Sanford, W50	5,100	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	535
536	Schacht	5,350	Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 8	Own	N	M & E	536
537	Schwartz, D	4,500	Buda, YTU	4	4½x6-32.4	F	Simplex	P	C, Fedders	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	537
538	Selden, 5A	5,770	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Detlaff	S, 4	Brown-L, 60	Y	Spicer	538
539	Service, 101	5,275	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	539
540	Signal, R	5,300	Continental, B2	4	4½x6-361	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	540
541	Standard, 86	4,800	Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	541
542	Sterling (chain)		Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	542
543	Sterling, (worm)		Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	543
544	Super, 100		Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Hilliard	S, 4	Savage, SD60	Y	Spicer	544
545	Tiffin, TW	5,850	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	Y	Peters	545
546	Titan	5,400	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	N	M & E	546
547	Twin City (St. Paul)	5,250	Wisconsin, JA	4	5½x6-46.2	FS	Pierce	P	C		Stromberg	G	K-W		M, M & E	I, 3	Cotta			547
548	United, V	5,100	Buda, YU		4½x6-32.4	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60			548
549	Walter, (N. Y.), S	5,600	Waukesha, DU	4	4½x6½-32.4	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Warner, T53		M & E	549
550	Ward LaFrance, 5A	5,590		4	5x6½-40.0	F		P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	550
551	White, 45	5,000	Own	4	4½x5½-28.9	F	Own	P	T, Own	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	551
551a	Wichita, S	5,000	Beaver, JA	4	4½x6-32.4	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	S, 4	Own	N	Thermoid	551a
552	Wilcox, W		Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		552
553	Wilson	5,275	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	553
554	Winther, 109	5,250	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	554
	11,000 Pounds:																			
554a	Aetna	5,375	Wisc., RBU	4	5 x6-40.0	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, T	N	Spicer	554a
555	Maccar, G-1	5,500	Wisc., RBU	4	5x6-40.0	F	Pierce	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Brown-L, 60	S, 4	Brown-L, 60	N	Spicer	555
555a	Bridgeport, 6D	4,500	Buda, YTU	4	4½x6-32.4	FS	Pierce	P	Own		Stromberg	G	M, Eisemann		P, Borg & B	S, 4			Hartford	555a
	12,000 Pounds:																			
556	Doane	5,350	Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, Own		Master		M, Bosch		M, Brown-L	S, 3				556
557	Kelly-Springfield, K60	5,500	Own	4	4½x—32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	557
558	Packard, EF	5,950	Own	4	5x5½-40.0	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	558
559	Royal	5,400	Wisconsin	4	5½x6-42.0		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			559
560	Tiffin, UW	6,050	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	Y	Peters	560
561	United, T		Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Muncie, 63			561
562	U. S. T		Buda, ATU	4	4½x6½-36.1	F	Simplex	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 60	N	Blood	562
	13,000 Pounds																			
563	Mack, AC	$5,750	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	563
	14,000 Pounds:																			
563a	Available, H7	6,000	Waukesha	4	5x6½-40.0	FS	Waukesha	P	T, Chicago	Y	Stromberg	G	BM, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	563a
564	Couple-Gear, LDC	7,350	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, E'sm'nn	N	†	† 6	Own		Own	564
565	Larrabee, W		Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	565
566	Old Reliable, K	6,000	Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, 6495	Y	Hartford	566
567	Royal	6,500	Wisconsin	4	5½x7-44.2		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			567
568	Winther, 140	5,900	Wisconsin, RBU	4	5 x6-40.0	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	568
	15,000 Pounds:																			
569	Mack, AC	6,000	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	569
570	Sterling		Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	570

† Electric transmission.

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TRUCK SPECIFICATIONS

10,000 (Gramm-Bernstein)—15,000

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
507	W, Standard	Y	B	2, R	12½, 10½	E, E	P, Own	½, ½	Perfection	10, 16	48x3½-64x4	L	Ross	62, 0	I, Smith	168	36x6-40x6d	9,850	76½, 92½	507
508	C, Timken, 4800	Y	W	2, R	8, 16	E, E	R	½, ½	Detroit	12 18	45x3-52x3½	L	Gemmer		I, Smith	144	36x5-40x6	7,530	25, 80	508
509	W, Timken, 6752	Y	W	2, R	8, 9	E, E	R	½, ½	Perfection	12, 18	45x3-52x4	L	Gemmer		I, Smith	144	36x5-40x6	8,400	25, 80	509
510	W, Sheldon			2, R		E, E	R, Own	½, ½	Sheldon				Ross		I, Smith	160	36x6-40x6d			510
510a	W, Timken			2, R				½, ½	Tuthill				Ross		W, Standard	Opt.	36x6-40x6d			510a
511	W	Y		, R	11, 10½	E, E	P	½, ½	Sheldon		46x3-58x4	L	Ross		W, Schwarz	159	36x5-40x6d	8,400		511
512	W, Hindley			2, R		E, C	P, Savage	½, ½	Perfection				Ross		W, Wayne	170	36x5-40x6d			512
513	W, Sheldon, W51	N	B	2, R	9½, 10½	E, E	R, Illinois	F	Sheldon	10, 15	40x3-50x4	L	Wohlrab	56, 0	I, Smith	167	36x5-40x6d	9,000	66½, 78½	513
514	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	11, 14	46½x3-56½x3½	L	Gemmer	56, 0	W	150	36x6-40x6d	9,175	50, 90	514
515	W, Sheldon, W50	Y	B	2, R		E, E	P	½, ½	U. S	12, 16	45½x3-53½x4	L	Ross	39, 6	I, Smith		36x6-40x12		50, 80	515
516	W, Sheldon, W30	Y	W	2, R	10, 8	E, E	P, Smith	½, ½	Mather	11, 13	44x3-62x3½	L	Ross	50, 0	I, Smith	180	36x6-36x6d	7,900	57½, 74½	516
517	W, Timken, 6752	N	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	11, 15	50x3-52x4	R	Ross		I, Smith	180	36x6-40x6d	9,200	50, 75	517
517a	W, Timken	Y		2, R				½, ½								142	36x4-36x7			517a
518	W, Sheldon, W50	Y	B	2, R	14, 10½	E, E	P, Savage	½, ½	Merrill	12, 17	44x3-58x4	L	Ross		I, Smith	172	36x6-40x6d	8,500	40, 84	518
519	C, Own	N	B	2, R	11½, 10½	C, E	P, Own	½, ½	Merrill	9, 13	46x3½-52x4	L	Own	52, 6	W, Own	Opt.	36x6-40x6d	8,650	48, 90	519
520	W, Sheldon, W51	Y	B	2, R	10½, 10½	E, E	R, Own	½, ½	Sheldon	–, 13	46x3-56x4	L	Ross		I, Smith	160	36x6-40x6d	8,600	60, 70	520
520a	I, Walker	Y	BS	2, R		E, E	P, Parish & B	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	50, 0	S, Walker	170	36x6-40x6d	8,000	58, 72	520a
521	W, Timken, 6752	Y	B	2, R	11, 11½	E, E	P, Parish & B	½, ½	Detroit	13, 18	46x3-60x4	L	Ross	50, 0	I, Smith	170	36x6-40x6d	8,000	58, 72	521
522	W, Timken, 6752	N	B	2, R		E, E	R, Own	½, ½	Tuthill	9, 12	44x3-54x4	L	Ross		W, Standard	160	36x6-40x6d	8,500		522
523	W, Timken, 6752	N	W	2, R	9, 10	E, E	P	½, ½	U. S	12, 14		L	Ross		I, Smith	162	36x6-40x6	9,400	55, 67	523
524	W, Timken, 6760	N	W	2, R	9, 10½	E, E	P	½, ½	Mather	11, 19	44x3½-60x4	L	Ross	56, 0	W, Hayes	170	36x6-40x6d	8,650		524
525	W, Timken, 6752	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x6-40x6d			525
526	W, Sheldon, W50	Y	W	2, R	10½, 10½	E, E	R	½, ½	Sheldon	10, 16	48x3-60x4	R	Ross		W, St. Marys	168	36x6-40x6d	8,400	—, 70	526
527	W	N	B	2, R	11½, 10½	E, E	P, Detroit	½, ½	Mather	11, 12	44x3-60x4	L			S	180	36x6-40x12	9,000	60, 85	527
528	W, Own	N	B	2, R	14½, 11	C, E	P, Smith	½, ½	Tuthill	8, 14	44x3-60x4	L	Ross	60, 0	I, Smith	160	36x6-40x6d	8,000	58½, 78	528
530	W, Own	N	S	2, R	12, 10½	C, E	P, Parish	½, ½	Spring Perch	11, 16	33x2½-48x3	R	Own	50, 6	W, Own	168	36x5-40x6d	8,450	—, 75	530
531	W, Sheldon	Y	B	2, R	9⅝, 10½	E, E	R, Standard	½, ½	Perfection		44x3-56x4	L	Lavine		I, Smith	176	36x6-40x6			531
532	W, Sheldon, W50			2, R		E, E	R, Own	½, ½	Sheldon				Ross		W, Hoopes	170	36x6-40x6d	8,240	—, 66	532
533	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x6-40x6d			533
534	W, Timken, 6752	N	W	2, R	8½, 8	E, E	P, Savage	½, ½	Garden City	10, 20	44x3-56x3½	R	Ross	41, 0	W, Standard	175	36x6-40x6d	7,950	20, 70	534
535	W, Sheldon, W50	Y	W	2, R	10½, 10½	E, E	P, Parish & B	½, ½	Perfection	10, 13	46x3-54x3½	L	Ross	58, 0	I, Smith	174	36x5-40x6d	8,070	75, 81	535
536	W, Own	N	B	2, R	10, 9	C, E	R, Own	½, ½	National	9, 17	35x3-50x3	L	Own		W, St. Marys	168	36x5-40x6d	8,500	—, 70	536
537	I, Torbensen, EI	Y	B	2, R	9½, 11½	E, C	P, Parish	½, ½	Rowland	10, 15	40x3-56x4	L	Ross		I, Smith	170	36x6-36x10	7,600		537
538	W, Timken, 6752	N	B	2, R	–, 10½	E, E	P, Parish & B	½, ½	Spring Perch	11, 15	46x3½-60x4	L	Gemmer	62, 0	S	164	36x6-40x12	9,800	57, 76	538
539	W, Timken, 6760	N	B	2, R	9, 10⅜	E, E	P, Own	½, ½	Mather	12, 15	46x3-60x3½	L	Ross	56, 0	S	171½	36x6-40x6d	8,760	—, 75	539
540	W, Timken 6752	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	11, 18	44x3-56x5	L	Ross	71, 0	I, Smith	180	36x6-40x12	9,510	—, 84	540
541	W, Timken, 6760	N	B	2, R	9, 10	E, E	P, Parish & B	½, ½	Perfection		45½x3-52½x4	L	Gemmer		S, Dayton	160	36x6-40x6d	8,100	64, 75	541
542	C, Own	N	S	2, R	11½, —	E, C	P	½c, ½c	Mather	10, 12	48x3-60x4	L	Ross	47, 9	I, Smith	174	36x6-40x6d	10,000	54, 91	542
543	W, Timken, 6752	N	B	2, R	11½, 10½	E, E	P	½c, ½c	Mather	10, 12	48x3-60x4	L	Ross	47, 2	W, Prudden	168	36x6-40x6d	9,700	53, 92	543
544	W, Sheldon, W51	N	B	2, R	11½, 12	E, E	P	½, ½	Sheldon	11, 13	44x3-58x4	L	Ross	50, 0	S	164	36x5-40x6d	8,500		544
545	W, Sheldon, W51	N	B	2, R	9, 10	E, E	R	½, ½	Kalamazoo	10 16	42x3½-53x4	L	Ross	69, 0	I, Smith	168	36x6-40x6d	8,000	40, 60	545
546	I, Clark, 5	N	B	2, R	12, 16	E, C	P, Parish & B	½, ½	Sheldon	9, 13	48x3-60x3½	L	Lavine	50, 0	S, Clark	156	36x5-40x6d	9,100	57, 80	546
547	I			4, FR				½, ½					Ross			140	36x5-36x5	8,000		547
548	I, Clark, 5D			2, R		E, C	P, Detroit	½, ½	Detroit				Ross		S	160	36x5-40x6d			548
549	I, Own	Y	W	2, R	14, 14	C, C	P	½, ½	Perfection		48x3-52x5	L	Ross	48, 0	S, Dayton	168	36x6-40x6d	8,000	50, 80	549
550	W, Timken, 6752	N	W	2, R	9½, 10⅝	E, E	P, Detroit	½, ½	Merrill		50x3-60x4	L	Ross		I, Smith	190	36x6-40x6d	9,300	—, 85	550
551	I, Own	N	BS	2, R	10½, 10½	C, E	R	½, ½				L	Own	61, 0	S	174	36x6-40x6d	7,925	54, 70	551
551a	SB, Own	Y	B	2, R	10½, 9	E, E	P, Own	½, ½	Detroit		51x3½-62x5	R	Ross		S	165	36x6-40x6d	9,000		551a
552	W, Sheldon, W50	N	B	2, R		E, E	P	½, ½	Sheldon	12, 13	48x3½-62x5	L	Own		I, Smith	162	36x5-40x6d	9,100	25, 75	552
553	W, Timken, 6752	Y	B	2, R	9, 10½	E, E	R, Own	½, ½	Perfection	11, 17	46x3-60x4	L	Ross		W	160	36x6-40x6d	7,500	60, 80	553
554	I, Clark, 5D	Y	B	2, R	11, 14	E, E	R, Own	½, ½	Mather	8, 12	46x3-56x4	R	Ross	68, 0	S, Clark	162	36x5-40x6d	8,600	45, 80	554
554a	W, Sheldon, W51	N		2, R		E, E	R, Own	½, ½	Sheldon	12, 18	46x3½-60x4	L	Ross		W	168	36x6-40x6d		55, 75	554a
555	W, Timken, 6752	N	B	2, R	9, 10½	E, E	P, Parish	½, ½	Merrill	11, 15	42x2½-56x4	L	Ross		S, Dayton	186	36x5-40x6d	8,750	—, 70	555
555a	W			2, R				½, ½					Ross			170		12,000		555a
556	C, Own			2, R			R	½, ½					Lavine		S, West	178	36x6-40x6d			556
557	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	12, 15	48½x3-56½x3½	L	Gemmer	56, 0	W	150	36x6-40x7d	9,500	50, 90	557
558	W, Own	N	S	2, R	11⅛, 9½	C, E	R	½, ½		12, 14	42½x3-54x3½	L	Ross	62, 0	S	156	36x6-40x7d	8,650	58, 78	558
559	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x6-40x6d			559
560	W, Sheldon, W51	N	B	2, R	9, 10	E, E	R	½, ½	Kalamazoo	10, 18	42x3½-52x4	L	Ross	34, 6	I, Smith	168	36x6-40x12	9,000	40, 60	560
561	I, Torbensen, C			2, R		E, C	R, Detroit	½, C	Detroit				Jacox		S		34x3½-34x7			561
562	W, Sheldon, W51	Y	B	2, R	11½, 10½	C, E	P	½, ½	Sheldon	11, 16	46x3-60x4	L	Lavine	62, 0	I, Smith	172	36x6-40x6d	9,725	55, 89	562
563	C, Own	N	B	2, R	11½, 10½	C, E	P	½, ½	Merrill	9, 17	46x3½-52x4	L	Own	52, 6	W	Opt.	36x6-40x12	8,672		563
563a	W, Savage	N		2, R		E, E	R, Own	½, ½	Tuthill		44x3-60x4	L	Ross		I, Smith	190	36x6-40x14	10,300		563a
564	B, Own	N		4, FR	11, 11	E, E	R	½, ½	Tuthill	14, 14	50x3½-50x3½	R	Own	36, 0	S, Own	144	36x6-36x6	12,500	50, 50	564
565	W, Sheldon, W51	Y	B	2, R	10, 10	E, E	P	½, ½	Merrill	12, 17	44x3-58x4	L	Ross		I, Smith		36x6-40x12	8,960	42, 86	565
566	C, Sheldon, RA70	N	B	2, R	9⅞, 17	C, E	R	½, ½	Sheldon	11, 13	51½x3½-59½x3½	R	Ross		W, St. Marys	124	36x6-40x7d	10,240	—, 85	566
567	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	168	36x7-40x7d			567
568	I, Clark, 5D	Y	B	2, R	11, 14	E, E	R, Own	½, ½	Mather	13, 16	46x3-56x4	R	Ross	68, 0	S, Clark	162	36x6-40x7d	9,500	45, 80	568
569	C, Own	N	B	2, R	11½, 10½	C, E	P, Own	½c, ½c	Merrill	9, 17	46x3½-52x4	L	Own	52, 6	W, Own	Opt.		9,050	50, 72	569
570	C, Own	N	S	2, R	11½, —	E, C	P	½c, ½c	Mather	10, 14	48x4-60x4	L	Ross	47, 9	I, Smith	174	36x7-40x7d	11,000	66, 91	570

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Motor Truck Design and Road Maintenance

By ALFRED F. MASURY

Chief Engineer, International Motor Company

OF ALL the various shortages harassing this country to-day, none is more menacing to our national welfare than the shortage of transportation. It was largely the realization of this fact that caused the government to appropriate some $800,000,000 to be spent in the course of the next few years for the improvement of highways to permit a more extended use of the motor truck.

In expending this amount the United States is, in reality, buying a certain number of ton-miles of load-carrying ability, or in other words highways, the value of which will depend on the amount of material that can be transported over them. The return on the investment will be determined not alone by the type and construction of the highways built, but also by the capacity and design of the vehicles operated over them.

As a first step toward securing the greatest return in transportation from the money spent on highway improvement, the Bureau of Public Roads at Washington has conducted extensive experiments in order to determine the type of highway which will give the largest number of ton-miles of load-carrying ability per dollar expended. However, the other phase of the problem—that of regulating motor vehicles so as to get the greatest tonnage transported with the least damage to the roads—presents much greater difficulties, since the decision rests, not in the hands of a centrally located group of technically informed men, but with numerous widely scattered legislative bodies. The ineffectiveness of this arrangement can be seen by the fact that methods of restricting motor vehicles vary widely in all parts of the country. While it is certain that every legislature, passing a law to establish license fees or restrict traffic, does so in an earnest effort to conserve the roads, there is a strong tendency on the part of those not fully apprised of real facts to assume that small trucks cause less road wear than large trucks and that they should therefore be favored.

CONSIDER for a moment, the effect of legislation that has favored the lighter capacity truck. Regardless of whether the material is to be shipped in large or small trucks, the demand for truck transportation remains the same, as practically none of it can be diverted to other channels. As a result, when large unit haulage is discouraged, the same amount of freight is merely divided up among a greater number of smaller vehicles, running at far greater speeds and increasing the cost of hauling by a very considerable percentage.

If this decreased the amount of road wear and permitted our $800,000,000 investment to obtain more ton-miles of load-carrying ability, it is possible that the increased cost would be justified. But this is not the case. A careful consideration of the effect clearly shows that to substitute smaller trucks for large ones, unquestionably *increases* road wear. To illustrate: suppose each dollar spent in highway improvement, as an arbitrary figure, buys 1,000 ton-miles of load carrying ability. Bearing in mind that two kinds of weight travel over these roads—weight of load and weight of vehicle—it is obvious that the dividends on our investment will be determined by the proportion of this traffic which is useful weight, or weight of load. A certain 7½-ton truck, for example, has less than one ton of vehicle weight for each ton of capacity; hence, if all the vehicles operating over this dollar's worth of highway were of that type, then that dollar would provide for 500 ton-miles of useful load transportation. A 1-ton truck, on the other hand, ordinarily weighs with its body over 2 tons itself and so if this size were used entirely, the same dollar's worth of road would give only 333 ton-miles of useful load transportation as two-thirds of the road's carrying ability would be used in transporting the weight of the truck.

THE design of the vehicle, as well as size, has an important bearing on the potential returns of our $800,000,000 investment. Certain tests conducted by the Bureau of Public Roads at Washington show that road impact, which is the principal cause of road wear, does not necessarily increase in proportion to the size of the truck, but is governed by the amount of weight which a truck carries below its springs. For instance, a 5½-ton truck fully loaded, delivered only 68 per cent. of the road impact pressure produced by a 3-ton truck of different design operating under the same conditions and carrying the same tonnage. This is why vehicle design should be considered in framing legislation to derive the greatest possible benefit from our highway investment.

Unfortunately this subject of gross weight restriction is too easily misunderstood. The tendency to jump at conclusions in determining which types and sizes of motor vehicles exert the greatest road wear is a very natural one, owing to the popular confusion between "static weight" and "impact weight." To be sure, a 7½-ton truck standing still is heavier on the road than a 5-ton truck regardless of whether it is chain or shaft-driven. But static weight does not wear out the roads, as was proved by the government tests and as any one can readily see. It is the constant impact pressure caused by a moving truck—the repetition of shocks or blows—that alone affects the road surface and its foundation. Is it not reasonable, therefore, for the people to demand that legislators apprise themselves of the facts concerning motor vehicle design that will provide a method for both lengthening the life of the highway and lowering transportation costs?

It is conceded that vehicle restriction in one form or another is a prime necessity in getting the most out of this huge investment, but when proof of the fact that large trucks will reduce transportation costs and reduce road wear is so conclusive, does it not seem that vehicle design is worthy of consideration as a basis for framing restrictive legislation? Is it not the duty of legislators to base their efforts on something more than assumption, to analyze the effect of substituting a greater number of high speed small trucks for fewer large trucks, and to study the tests made by government officials that a consideration of vehicle design will increase the effectiveness of our $800,000,000 highway investment by at least 50 per cent.?

New York Truckers Organize

At a recent meeting of motor truckmen of New York City a ship-by-truck association was formed with the purpose of coördinating the activities of the industry in New York and vicinity. Seventy-five prominent truckmen engaged in local and long-distance motor trucking were present at the meeting and it is planned to hold a series of weekly meetings to perfect the plans of the association.

A return-load bureau for the benefit of shippers and truckmen was organized and protective measures against pilfering, which has greatly disturbed the trucking industry in the East, were adopted. The return-load bureau will act as a clearing house for local as well as long-distance hauling and has already established headquarters at 1133 Broadway, New York.

Harry J. Seidenburg, of the Pennsylvania Transportation Company, was elected temporary chairman; John H. Sand, of the Royal Efficiency Trucking Company, was elected treasurer; and H. T. Stockley, formerly Traffic Manager of the General Cigar Company, was appointed secretary.

The advisory council of the association includes F. W. Fenn, general manager of the National Automoibile Chamber of Commerce; William B. Doron, director of the Firestone Ship-by-Truck Bureau, and Theodore T. Cones, president of *Commercial Trucking World*.

New Clark Axle Plant.

The new Battle Creek plant of the Clark Equipment Company of Buchanan, Michigan, which has been under construction since March 1, is almost completed and the work of "tooling up" the plant will soon be in progress. Much of the machinery has been purchased and is ready for installation. This plant will be used exclusively for the manufacture of truck axles.

The plant's site comprises 23 acres with a 4,600-foot frontage on the main line of the Michigan Central Railroad and a smaller frontage along the Grand Rapids and Interurban Railroad. The manufacturing building is 99 by 440 feet and a warehouse parallel to it is 50 by 144 feet. A third building houses the power plant.

All sales, engineering, purchasing and general administration will be handled as before through the general offices at Buchanan, Michigan. There will also be put into force at the Battle Creek plant the same progressive policies of plant management and profit sharing, which have proved so valuable at Buchanan.

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Delivering Milk With Horses and Motors

Large Creamery Concern Employs 107 Trucks and 500 Horses in Serving City of Detroit

THE Detroit Creamery Company hauls and distributes an average of 43,510 gallons of milk every day. It comes into the company's main plant and three branches in Detroit from farm territory within a radius of 70 miles of the city by motor truck, railroad trains and electric express. Farmers haul their milk to the depots and country stations maintained by the company as soon as the morning milking is finished. The last shipment reaches the creamery in Detroit every day at 11:30 a. m.

Milk receipts for January 28, 1920, as shown by the company's books, were 1,857 cans or 18,570 gallons by motor truck, 1,656 cans or 16,560 gallons by railroad and 301 cans or 3,010 gallons by electric express. This did not include sour milk or buttermilk.

From 15 to 25 motor trucks are used to haul this milk. The company operates a fleet of 107 motor trucks. Fifty of these are of all capacities from 1½ to 6 tons. A large number of the remainder are light trucks.

An average of 15 trucks and 500 horses and wagons are used in the daily distribution of milk to homes. From 6 to 8 motor trucks are used in supplying the regular wholesale trade, stores, restaurants and hotels. Milk for restaurants and hotels is practically all delivered in cans, weighing more than 100 pounds each. Deliveries to several of the large industrial plants in Detroit are made twice daily. The milk is used in the restaurants maintained by the factories for their employees. Each delivery requires between 4 and 6 trucks. Two or three trucks are kept busy hauling the daily supply of cream between the company's main plant and its branches.

One hundred 2-horse outfits and 300 single-horse wagons are used in the daily house-to-house milk distribution. Both carry loads weighing approximately 1,500 pounds. The 2-horse wagons are used only in the outskirts of the city where the routes are longer, the streets ungraded and the hauling generally more difficult. Road conditions only are considered.

TWO hundred and thirty wagons are operated from the company's main plant on Grand River Avenue. Seventy wagons are operated from the North Woodward branch at Woodward Avenue and the Six-Mile Road; 50 are operated from the east branch at Jefferson Avenue and Lillibridge Street and 50 more serve the territory in the vicinity of the company's west branch at Calvary and Dix Avenues.

The company's distribution system covers the entire city. Milk comes directly from the farms to all its distributing plants except the east branch. In order to reach this plant direct milk would have to be hauled through Grosse Pointe, an exclusive residential section which prohibits the use of motor trucks on its paved boulevard. The milk coming into the city from this section is diverted down Gratiot Avenue to the main plant and is then hauled to the east branch with the 10- and 15-ton tractors.

Milk for some of the plants of the company is carried into the city every morning by the Pere Marquette, Michigan Central and Grand Trunk Railroads, by practically every electric line of the Detroit United Railway entering the city, by boat from St. Clair, and by motor truck from within a radius of 35 miles of the city. The truck routes are over all the principal roads entering Detroit.

Motor trucks of from 3 to 5 tons capacity are used to haul milk from the country. They are loaded almost entirely at the company's stations located along the principal roads. Very few cans are picked up from platforms. This eliminates many stops and gasolene waste.

IN addition to its regular distribution of milk for domestic purposes, the company delivers in all parts of the city a large amount of certified milk for feeding babies. This milk is produced and certified at the Detroit Creamery Farm near Mount Clemens, one of the most modern dairy farms in the United States. All milk from this farm is shipped into Detroit over the Detroit United Railway lines.

During December, 1919, the company purchased 6 new trucks. One of these is equipped with a glass-lined tank body and has a capacity of 2,000 gallons. The company has had in operation for some months a copper-lined tank body of 1,000 gallons capacity, mounted on a trailer. They are used to haul milk from the farm stations.

The tanks take the place of a large number of expensive cans requiring considerable handling. The Detroit Creamery Company uses approximately 20,000 cans, representing an investment of about $120,000. The principal advantage of the tanks is that they insure an even temperature for the milk while it is being hauled to the creamery. A test made by the company showed that a load of milk hauled in an insulated tank in hot weather from one of the country stations varied only one degree in temperature during the trip.

Farm stations from which milk is hauled in the tank trucks are equipped with special filling devices. The milk is poured from the cans into a vat inside the station and flows, without being exposed, through an insulated pipe attached to the opening on the top of the truck tank. At the creamery the milk is either pumped or forced by compressed air out of the tank through another sanitary pipe attached to a faucet on the rear end of the tank. The milk is deposited in an enclosed vat inside the building.

Each of the company's three branches in Detroit is a complete distribution plant. The milk is received, filtered, pasteurized, cooled and bottled at the branches in exactly the same manner as at the main plant. A combination stable and garage is operated in connection with each branch for trucks and horses.

The company's main stable and garage is located at Fifth and Spruce Streets, just outside the downtown business section of the city. This is one of the largest and best equipped establishments of its kind in the country. It has floor space for the housing of about 100 motor trucks and cars, 150 wagons and more than 250 horses. In addition to the stable and garage space the company has in this building its own motor truck repair shop, body and wood-working shop, blacksmith shop, repair parts storeroom, ice cream cabinet storage and manufacturing shop, harness shop and a large bath and locker room for its employees.

935 Miles in 24 Hours by Truck

A Duplex recently finished a continuous run of 24 hours on the Indianapolis Speedway, having covered a total of 935 miles, an average speed of 39 miles an hour. The truck carried a full rated load of 3,000 pounds, as well as reserve supplies of gasolene and oil. Two drivers alternated at the wheel and rode the entire distance without stop or slowdown.

George J. Thomas, chief engineer of the Duplex company and the moving spirit of the run, expressed himself as highly satisfied with the result which, he pointed out, is probably the first authentic standard of speed and endurance ever formally established by the modern type of truck, designed for prompt service and specially adapted to pneumatic tires. That the truck finished in satisfactory condition was proved by the fact that, on the conclusion of the 24 hours and in continuation of the run, it was sent a complete lap of the 2½-mile brick speedway in 3 minutes and 26.4 seconds—a rate of 44½ miles an hour.

Old London 'Buses for Sale

The London General Omnibus Company of England is offering for sale a large fleet of its old style model B motor 'buses, which are to be replaced by the new type K. The latter provides seats for 46 passengers as compared with a capacity of 34 passengers provided by the former. The old machines are being offered at $2,250 each for the chassis and at $2,500 each complete with body and electric lighting equipment. The concern which builds the 'buses, the Associated Equipment Company, is guaranteeing them for a period of six months during which defective parts will be replaced without charge. Since the Commissioner of Police has expressed his willingness to license 'buses even larger than the new type K, the company has been developing a type to seat 57 passengers.

The new plant of the Menominee Motor Truck Company at Clintonville, Wisconsin, has begun operations with a capacity of 50 trucks a month. This will be increased to 100 trucks monthly early next year. The company, which was recently reincorporated with $500,000 capital stock, is partly owned by the stockholders of the Four Wheel Drive Auto Company of Clintonville, and its product will be sold through the distributing organization of the FWD concern.

The Motor Truck Association of America had moved its offices from the United States Rubber Building to 144 West 65th Street, New York.

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Farmer's Truck Saves One Hired Man

By MICHAEL BECKER

A Truck Farmer of Chicago

SINCE I bought my motor truck, four years ago, I haven't worried much about the shortage of farm labor. I get a good night's sleep now instead of being on the road all night, as I was when I was hauling to market with horses.

The Chicago market, where I sell my fresh vegetables, opens at 3 o'clock in the morning. Some of the truck farmers start the night before in order to get there at 2 and secure good stands. I don't believe in getting up so early, and find my stuff sells just as well if I reach the market a little later. When I was using horses I had to allow 2 hours for the 8-mile haul. Now I can start at 5, make the trip in half an hour, and be sold out by 8 o'clock. I pick up a load of manure on the way back, and get home before noon.

This gives me the whole afternoon to work, and there's always plenty to do around a truck farm. Help is very hard to get these days, and isn't much good when you do get it. I can do as much in half a day as a hired man would do in a day, because I keep busy all the time. A man would cost me $70 a month and keep, which I figure at $30 more. So the truck is actually saving me $1,200 a year in wages alone, through the time saved getting to market and back. As it's often impossible to get help at any price, the truck enables me to keep the farm producing in spite of the labor shortage.

I bought my 1½-ton truck in September, 1916. It has given me the most reliable service ever since. It's always ready for work, and I can use it at a minute's notice. I don't have to worry about whether the truck has already done a big day's work, as I did with horses, and I can run into town and back in a very short time. By using the truck for hauling, and keeping the horses for farm work, I always have a team fresh and ready for work. You can't get much work out of a tired and sleepy team.

Up to June 10, 1920, I had had my truck three years and nine months, and hadn't spent a cent for repairs or parts. Recently I spent $27.44 for a new clutch and some brake-lining. I grind the valves and clean out the carbon myself. I also installed the new clutch myself. Although I have already run this truck nearly four years, I expect to run it at least four years more. There's no reason why I shouldn't. It's a well-built truck in the first place, I take good care of it, drive it myself, give it plenty of grease and oil, and don't overload it. It's the same way with tires. I just replaced my first set, after getting over 20,000 miles out of them.

This truck has worked every day but Sundays and holidays for the last four years. Even when I don't go into market, I have to make the trip into town for manure, because I'm under contract to remove it daily from the barns. For the year ending June 10, the truck worked a total of 290 days, averaging 27.5 miles per day. I got 9.5 miles per gallon on my gasolene, and 150 miles per gallon on oil. Figuring my operating costs on the National Standard System, the truck is costing me $7.82 per day, or 28 cents per mile traveled. As I drive the truck myself, my actual cost, excluding any allowance for driver, is only $2.82 per day, which is less than a team would cost me.

Until I got my truck I never realized how much time I lost using horses for hauling. It was bad enough when I would get reliable help. To-day with farm help so undependable the truck is the best hand I've got on the farm.

Operating Costs of a 1½-Ton Motor Truck in Farm Hauling.

AVERAGE COST.

Cost per day (including driver at $5.00)	$ 7.82
Cost per mile	.2834
Total cost per period	2,267.60

OPERATION.

Days operated	290
Miles traveled	8,000
Miles per day	27.5
Miles per gallon of gasolene	9.5
Miles per gallon of oil	150

ITEMIZED COST.

Driver cost per day (included above)	$ 5.00
Depreciation per mile	.0199
Maintenance and repair, actual, total 3¾ years	27.44
Maintenance and repair, actual, per mile	.0009
Maintenance and repair, estimated, per mile	.0125
Tire cost, estimated, per mile	.0102

Trucks Perform Wonders for Transfermen

Twenty-five Machines Have Reduced Horse Equipment From 300 to 125 Head

THE one thought uppermost in the mind of a man who has goods of any kind to move is to move those goods as quickly as possible. The sub-conscious mind of the average business man in Atlanta, Georgia, will prompt him to say, "Phone Morrow and have him move that shipment to-day," for the sight of the many trucks operated on the streets of Atlanta by this live transfer concern has so impressed itself on the minds of the people that when they think of moving anything they automatically picture the sturdy motor trucks belonging to the "Big Yellow Fleet."

In 1869, at the time when Atlanta was just beginning to recover from the blow which Sherman dealt her, J. W. Morrow, Sr., then a young man, was agent and cashier for the Georgia Railroad at the old depot on Decatur Street. He found in the rapidly growing village a demand for some one to move freight from the depot to the stores, and so, in September, 1869, he bought a mule and wagon and put them into service, hauling from the Georgia Railroad freight depot, the first public dray or transfer service that Atlanta ever knew. The business grew from this humble start until 1890, when Gilham H. Morrow, son of J. W. Morrow, took over the management of the 6 teams belonging to his father and organized the Morrow Transfer Company, which, guided for fifty years by father and son, has grown until it is to-day the largest business of its kind in Georgia or the Southeast. With this experience to guide him G. H. Morrow was quick to recognize the possibilities of automotive transportation and one of the first to back his judgment with his money.

Unfortunate experiences with the early trucks did not disturb Morrow's vision of the future. He was enough of a mechanic to realize that the faults and limitation of the trucks he had to struggle with were purely mechanical and that eventually he would profit by the fund of expensive experience he was accumulating. Experience with any new thing must be bought and he who buys his first will profit more quickly in the end.

After several years' trial of the various trucks which were offered to the public, in those early days of the business, Morrow made one more experiment. He bought a 1½-ton truck built on entirely different lines from anything he had used up to that time. This truck was sold, not on the strength of some one point about it, which made it different from other trucks, but on the fact that it was an engineered job, putting into practice the results of tests and experiments with the truck under actual service conditions. This truck, the first of the present Morrow fleet, is still on the job to-day, and the analysis shown here covers the cost of operation for the seventh year of its life.

Since that time the size of the Morrow fleet has increased until to-day it is the largest in Atlanta, with a modern service station all its own, having a machine shop, welding shop, blacksmith shop, body shop and paint shop, as well as the necessary repair and assembling department. A stock of repair parts is also carried, supplemented by the factory service station maintained in Atlanta. This work is all carried on under the direction of J. W. Morrow, Jr., vice-president, and a brother of the president of this concern, who also looks after the departments of road contracting and grading.

A complete set of forms for keeping records of all business from the time the telephone call is received until the truck, which does the work, is put in the garage for the night, are kept and are used continuously. A special form for reporting accidents is used, and all drivers are sup-

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Operating Costs of a 1½-Ton Motor Truck in Transfer Service.

PERFORMANCE.

Period covered	1 year
Days operated	308
Days out for repairs	5
Miles traveled	6,622
Gasolene, gallons used	719
Cylinder oil, pints used	441
Hours worked	8
Loads, average	4
Miles traveled	21.5
Miles per gallon gasolene	9.2
Miles per pint oil	15

COST.

Investments.

Chassis	$1,000.00
Body	450.00
Total investment	1,450.00
Tire value	240.00
Total less tires, to be depreciated	1,310.00

Fixed Charges—Yearly.

Interest on total investment	$ 87.00
Taxes and licenses	65.00
Insurance	125.00
Garage expenses	120.00
Total	397.00

Variable Charges—Period.

Fuel at 28 cents gallon	$ 201.32
Cylinder oil at 11 cents pint	48.51
Tires, 6,622 miles, on the basis of $240.00 for an estimated 10,000-mile life	144.00
Depreciation (This truck is eight years old and is carried on the books at a value of $1,450.00 against which a depreciation is charged.)	
Maintenance and repairs (actual)	335.00
Driver's wages and helpers	2,771.00
Total variable charges	3,499.83

Total Costs.

Total fixed charges	$ 397.00
Total variable charges	3,499.83
Total costs	3,896.83
Cost per day operated	12.65
Cost per mile traveled	.58
Repair cost per mile	.005

plied with cards for the purpose of securing the names of any witnesses for the company's protection.

An intercity transfer department is operated for the purpose of moving goods of any description to towns within a radius of 150 miles. Trips have been made to and from practically every town in that district, the longest trip having been made to Augusta, 180 miles by road in each direction.

A trip particularly interesting was a recent delivery of two tons of specially printed catalogs to West Point, Georgia, by means of a 2-ton truck mounted on big pneumatic tires. The printer who did the work was delayed on account of the paper shortage and labor troubles, and only completed the job on June 29th, while his contract required delivery in West Point not later than July 1. Railroad freight conditions were such that there was no assurance of prompt delivery, and the cost of express on two tons of printed matter would be almost prohibitive. As a last resort the printer called the Morrow Transfer Company and asked to be quoted a rate for delivering this shipment in West Point. Much to his surprise the company agreed, without hesitation, to handle the shipment, and guaranteed delivery at a cost much less than that of the express alone, without considering the expense of crating. On the morning of June 30 a truck was loaded with packages made up in the same manner as though intended for city delivery and a start made for West Point, 99 miles away, where delivery was made the following morning. The truck picked up a return load and reached Atlanta the next night.

A freight station delivery service is maintained with a branch office of the Morrow Transfer Company in every railroad depot in the city. A list of the customers is kept there, and whenever a shipment of goods arrives, consigned to anyone on this list, the consignee is promptly notified by telephone, a messenger calls for the freight bill and bill-of-lading, and the rest of the transaction, including the payment of freight, is handled by the Morrow company, and the goods put on the consignee's floor.

A business of this size and scope can only be carried on by concentrating on one thing—in this case the prompt and efficient handling of goods, belonging to other people—and its success is absolutely dependent on the efficiency of the equipment which is used. Five years ago the Morrow stables housed 300 head of mules and horses. Today all departments of the business, except that of contracting and grading, are carried on with 125 head of horses and their necessary equipment with the addition of 25 trucks. The conclusion is obvious.

Delivering Coal at 21.8 Cents a Ton-Mile

By W. S. POWELL

President, Powell & Titus Coal Company, Brooklyn

OUR company uses motor trucks for delivering coal to our customers—mostly families and apartment houses ordering 5, 10, 15 and 20 tons at a time. For these small deliveries it is usually necessary to unload the truck and deliver the coal in the basement. Horses are usually used for this type of work, and we still use 10 teams for the shorter hauls and places where there is likely to be considerable delay. But in spite of the short hauls and idle time, we know that we can make the ordinary delivery quicker and more cheaply with trucks.

We are now operating four motor trucks, all 3½-ton capacity. Rather, that's the chassis, for they are equipped with 5-ton bodies and usually carry 5 tons per trip. Approximately 10 minutes are required to load a truck. The coal is loaded from an overhead hopper, and screened as it comes from the hopper. The load is weighed and the truck is off on the job making deliveries.

The truck bodies are equipped with both side and tail chutes. Usually the coal is let out into bags and so carried into the house. In some cases it is dumped on the pavement. Of course, the first method of delivery requires considerably more time, but the trucks average 4 trips a day. Sometimes they run as high as 5, 6 and 7, depending upon the distance from the yard to the customer. As a matter of fact, these trucks all cover approximately the same number of miles per day, averaging 28 miles, and carrying 5 tons per trip.

The trucks were purchased in November, 1917, February, 1918, October, 1918 and March, 1919. This consecutive purchasing shows what motor trucks have been doing for the Powell company, and is the best comment we can make on their dependability for delivering coal.

Our drivers like trucks. All make minor adjustments, supply the trucks with grease, and keep them in good condition. Practically all our drivers have been with us a long time—some having driven horses before the trucks were installed.

One of the drivers is a first-class mechanic, and looks after ordinary repairs and maintenance. During a slack period, when all four trucks are not needed, he pulls in one of the trucks and goes over it thoroughly. By this system a driver is never laid off while his truck is being repaired. The company plans to have only one truck in the garage at a time.

Though we use horses for certain jobs, we operate only Selden trucks. This standardization has several big advantages. In the first place, fewer spare parts are necessary, and the mechanic is equally familiar with all trucks. Also, if a part is broken on one truck, and a different part broken on another truck, we can change the parts from one truck to the other. This lays up only one truck, whereas otherwise the two trucks would be kept in.

Once a month the manufacturer's service man comes around and inspects the trucks to see if they are in good condition, or need any repairs. If we do need anything, he gets it to us quickly. In

Operating Costs of a 3½-Ton Motor Truck in Coal Delivery.

PERFORMANCE.

Total Period.

Period covered	1 year
Days operated	280
Miles traveled	7,840
Gasolene—Gallons used	1,568
Cylinder oil—Pints used	417.6

Daily Averages.

Miles per day	28
Miles per gallon of gasolene	5
Miles per pint of oil	18.7

COST.

Investment.

Chassis (freight and war tax)	$3,300.00
Body	500.00
Total investment	3,800.00
Tire value	320.00
Total, less tires, to be depreciated	3,480.00

Yearly Fixed Charges.

Interest on total investment at 6%	$ 142.50
Taxes and licenses	40.00
Insurance	343.00
Garage expenses	240.00
Total for period	765.50
Total per month	63.79

Yearly Variable Charges.

Fuel at 25 cents a gallon	$ 392.00
Cylinder oil at 8 3/5 cents a pint	36.54
Tires—7,840 miles ($320 on estimated 10,000 miles life)	250.88
Depreciation—7,840 miles ($3,480 on estimated 32,000 miles life)	852.21
Maintenance and repairs (estimated)	300.00
Driver's wages	1,680.00
Total variable charges	3,511.63

Total and Unit Costs.

Total fixed charges	$ 765.50
Total variable charges	3,511.63
Total of all charges	$4,277.13
Cost per day operated	15.28
Cost per mile traveled	.545
Repair cost per mile (estimated) (October, 1920.)	.038

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every respect the maker's distributers cooperate with us in keeping the trucks on the job and in good working condition.

Our trucks average 280 days per year on the job. Nevertheless, the total actual repairs for all four of these trucks since they were purchased amounts to only $650. This is certainly a very low repair cost, for the total mileage of the four trucks represents an average of two full years of operation.

We have set a life of 32,000 miles for the trucks. As a matter of fact we are sure they will last much longer, but because we load so heavily we have estimated heavy depreciation. This is a 4-year life and we will get at least 5 years of service.

In considering our costs, which are figured on the National Standard Truck Cost System, it may be interesting to compare the cost of teams, which we estimate at $12.00 per day. Our trucks, as I have said, average 4 trips per day, although 5 trips are made almost every day by one of the trucks. As 5 tons are usually carried that will mean 20 tons delivered per day. Considering the commercial ton-mile—5 tons hauled an average of 14 miles—we have 70 ton-miles. At the total cost per day of $15.28, we have a cost per ton of 76.4 cents and per ton-mile of 21.8 cents. This is a very satisfactory cost, for such short hauls mean a lot of lost time waiting while delivery is made to the cellars.

One of the best results we have had during the last three years is the fact that our trucks have been kept on the job the year round. Our system of standardizing on one make, of promptly taking care of minor repairs, of overhauling during slack season and of employing the best drivers, mechanics in fact, has proved profitable and is to be strongly recommended to other coal dealers.

Production Costs in England

Interesting comment on the increased costs of production in England is contained in the house organ of a Nottingham automotive manufacturer. He states that engineers' wages have increased over 200 per cent., laborers' wages 300 per cent., and apprentices' wages 240 per cent. Similar increases have occurred in the prices of materials, lumber costs having increased 210 per cent., iron castings 235 per cent., steel 185 per cent., stampings 215 per cent., and aluminum 175 per cent.

Mail Motors in Louisville

Complete motor service was put into effect by the post office in Louisville last month. E. T. Schmit, postmaster, in arranging for the new mail delivery system, says that the new service probably will not be cheaper or increase speed of delivery, but will give greater elasticity to the service generally. Mail that formerly was sent to sub-stations on street-cars will be delivered hereafter in trucks. Only four of the old wagons will be retained in the service, two collection wagons and two delivery wagons for service in congested districts.

Systematic Loading Saves Time and Boosts Efficiency

NINE TRUCKS HAUL AS MUCH AS FIFTEEN

The Gordon-Van Tine Lumber Company, of Davenport, Iowa, delivers ready-cut buildings and lumber all over North America, Cuba and the Philippine Islands. The inner circle of this transportation system, served with motor trucks, is a model of perfection. It has been built up around the activities of a 2-ton truck, purchased years ago when motor truck delivery was in its infancy. The old truck is still giving excellent service, delivering its quota of building supplies every day.

The company has studied motor truck transportation very carefully. Another 2-ton machine has been added. The two now take care of all the heavy work, and together with seven other lighter trucks, making a fleet of nine, equal the activities of about fifteen. To state this more clearly: if the nine trucks were not so carefully routed and despatched, loaded and unloaded, cared for and driven, it would take fifteen trucks to deliver the same material in the same time and keep the customers satisfied.

The motor truck fleet is operated solely for the purpose of delivering building materials is the territory comprising Davenport, Iowa; Rock Island, Moline, East Moline, Silvis and Watertown, Illinois. The territory is on both sides of the Mississippi in two states and is populated by about 250,000 persons.

Marshall Stuart, superintendent of the company, who devised the loading and unloading system that practically doubled the delivery capacity of the trucks, says regarding the performance of the machines: "The two big cars built up a local reputation that is summed up in the words of a worthy truck employee, 'As sure as the sun shall rise tomorrow, the trucks will report for duty.' This has been literally true, for with the exception of minor repairs we have had no trouble. With but few exceptions the machines have been running day in and day out, in all weathers, since they have come into our hands. They have returned many times their worth in good service and inexpensive upkeep."

In developing its motor truck delivery system, the company has had the closest coöperation of its drivers. They are thoroughly loyal Gordon-Van Tine men and special pains are taken to see that they remain as such.

Each truck, instead of having the regular platform, is equipped with cross rollers. The rest of the loading equipment is arranged mostly on the loading platform. It consists of crib bodies and crib racks. The crib bodies are loaded while resting on the crib racks and are then rolled onto the trucks. The material is loaded into the crib bodies in "station order," so the load for the last stop is the first one put on.

The entire delivery district is divided into eight smaller districts, numbered from one to eight. They are so arranged that a route following through the districts from one to eight consecutively would be a continuous route, with no cross-over on the back trail.

All orders are stamped with numbers, one to eight, according to the districts to which they are to be delivered. The loading platform is also divided into eight parts. The orders are simply put in the division that bears the same number and so the system works throughout.

The first truck in slips off its empty crib body and swings over in front of the loaded one. The platform men roll the body on the truck, give the driver his delivery tickets and he is off on his next trip in five minutes. Loading by hand usually requires one and one-half to two hours of hard work for driver and helper.

Feeder wagons, equipped with rollers to facilitate the transfer of lumber from the wagons to the trucks are used in the yard. The load is assembled by pulling the wagon from one lumber pile to another with a small gasolene tractor. It takes five minutes to roll the lumber from the feeder wagon to the truck. The load, secured by a chain binder to prevent scattering and breaking, is rolled off the truck at its destination in ten minutes. The driver can unload the truck without a helper. Unloading by hand requires about as much time as loading.

An overhead derrick is also used to load the smaller trucks out in the yard. The load is assembled on a lumber dolly and pulled under the derrick. Then, with chain slings, it is picked up and swung free. The dolly is removed and the truck run under the suspended load. The lumber is lowered to the truck and the outfit is on its way in ten minutes.

The 2-ton trucks frequently carry all the material to start a house or barn 15 or 20 miles out into the country, having it on the ground in a day or so after the order is sent in.

The prospect of improved roads encourages officials of the company in the belief that their local delivery territory is soon to be much enlarged. Farmer customers 50 or 75 miles away will then be able to telephone in the morning for material, big and little, that goes to make up the everyday building and repair necessities on the farm, and have deliveries made at the door.

Motors in Massachusetts

For the period December 1, 1919, to September 30 last, 49,627 trucks have been registered in Massachusetts, or 20.1 per cent more than in the corresponding time last year. There are more trucks in use to-day in Massachusetts than there were trucks and passenger cars combined in 1912, when the total was 50,132. In September there were 8,318 passenger car registrations, against 6,626 in the same month of 1919 and only 3,250 in 1918. For ten months the comparative gain measures 25.5 per cent. to 239,955.

F. Van Z. Lane, general maintenance manager of Hare's Motors, Inc., has announced the appointment of A. A. Brevaire to the position of chief maintenance engineer. Mr. Brevaire comes from the Pierce-Arrow Motor Car Company, where he was technical engineer for the service department.

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Everybody and Charley's Aunt

keeps away from a sagging-price market. One cut suggests another. This causes them to feel that it is best to wait to find out where the bottom is.

Under such conditions the seller cannot attract. A firm or bull market is what makes the public buy. Why? Because they have confidence.

Soon we will have a new President and get this Peace agitation out of our systems. Money will get cheaper and, with prices steadied up, the public will once more gain confidence to buy.

There will be no room then for the money-thirsty profiteer—due to the excess profit tax—which will be repealed.

In the future those who sell at a reasonable gain will be the ones to do the business.

The house of Smith always stands for live and let live.

SMITH WHEEL
SYRACUSE N.Y. U.S.A.

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Coal Delivery by Motors from Mines to Consumers Increasing

The fuel consumers of the country are short at least 20,000,000 tons of bituminous coal and with no immediate prospect of building up a reserve stock for the winter. A shortage of open-top cars and equipment, a congestion of railroad traffic, with coal-carrying cars in non-coal-producing areas, and unfavorable labor conditions, combined, in the recent report of the Interstate Commerce Commission, to dispel any hope of immediate relief. With the memory of the war-time coal riots in eastern cities fresh in the minds of homeowners and, with the continued announcement of unfavorable reports from the mines and railroads, people are looking about for a means of securing the coal which local yards can not supply. Even the railroads are worrying about where they will get enough coal for their engines.

It is probable that the situation will be somewhat relieved before cold weather, but there is little hope that the railroads can carry sufficient coal to do more than meet absolutely necessary needs, and there is no hope of a surplus, except in areas near the source of supply. The country has, roughly, three great coal-producing areas—one in the East, one in the Central West, and one in the regions just east of the Rocky Mountains. The Northwest has small fields, added to which a supply can be drawn from Canadian sources. But how to get the coal from the mines to the consumers is the question. The highways offer an answer with motor trucks as the vehicles of transportation.

It is not generally known that there are a great many so-called "wagon mines" in the country, coal from which is marketed to residential consumers and industrial plants by means of wagons and motor trucks. During the coal shortage of 1917-1918, more than 8,500,000 tons of bituminous coal were shipped by this method, from mines in Pennsylvania and Illinois, and sold to consumers.

An eastern public service corporation, which furnishes heat, light and power for residential and industrial purposes, as well as current for city and interurban electric lines, draws its entire supply of coal from these wagon mines. Five 5-ton and two 2-ton trucks do the work. The 5-ton trucks make 9 trips of 5 miles each in 10 hours, while the 2-ton trucks make 20 trips of 2 miles each in 10 hours. The 5-ton trucks are loaded at the mines. The fleet moves 300 tons daily.

Coal from wagon mines is being moved by motor truck to a distance of from 18 to 50 miles. There is no doubt that the amount of coal moved from wagon mines will hit a record figure this fall and winter. The coal-producing states with improved roads will be able to ship by truck enough coal to prevent death and suffering in northern cities, if the railroads are unable to supply the demand.

Thus we see the highways again serving the nation's needs, and thus we are again brought to realize the importance of good roads. Over improved roads trailers may be used, thus increasing the tonnage possibilities of transport. Where proper drainage makes sound road surfaces, greater loads can be carried.

In some cases coal companies and operators have improved roads at their own cost in order that they might keep their trucks running throughout the year and provide an outlet for constant production, if open-top cars were not supplied by the railroads.

In an emergency New York, Philadelphia, Chicago and Denver, as well as many smaller cities, can be supplied with coal by motor trucks for home-heating purposes at least. Even if coal production increases and traffic congestion is overcome, the highways will be called upon to carry a part of the load and the improved road will demonstrate its worth.

Bureau of Public Roads Is Prosecuting Highway Tests

Such important questions as how hard a heavy motor truck pounds a pavement when going at 5 miles an hour and at 15 miles an hour are being answered by investigators for the Bureau of Public Roads, United States Department of Agriculture, in a series of scientific experiments which, when completed, promise to be of great value to highway engineers. Already sufficient tests have been made to show that increased speed of a vehicle equipped with hard rubber tires tremendously increases the impact which its wheels make on the roadway where there is any unevenness. On the other hand, where pneumatic tires are used increased speed adds comparatively little to the impact. It has been suggested that these tests will be of great value not only in settling questions of design but that they may also lead to a rational basis for determining license fees for motor vehicles.

Trucks have been used in these tests varying in size from 1-ton to a 7½-ton capacity carrying an excess load. Each truck was run over a special recording device embedded in a roadway and the impact which resulted when one of the wheels made a 2-inch drop from a ledge built in the surface caused the deformation of specially prepared copper cylinders forming part of the apparatus. The magnitude of the blow was accurately ascertained in pounds by measuring the extent to which the cylinder had been forced out of shape.

Recent tests were made with a 3-ton truck of well-known make loaded with a 4½-ton load, so that the total weight on each rear wheel was 7,000 pounds, the unsprung portion (that not supported by the springs) being 1,700 pounds, and the sprung portion (that portion supported by the springs) 5,300 pounds. The truck was equipped first with an old solid tire that had been worn down to a thickness of one inch. Then, with exactly the same load on the truck, a wheel was used fitted with a new solid tire 2½ inches in thickness. And finally, the truck was equipped with pneumatic tires, 42 by 9 inches, and blown up to a pressure of 142 pounds per square inch. The following table shows very clearly the bad effect an old tire is likely to have on a road surface and the greatly lessened impact produced by trucks when they are equipped with pneumatic tires. The tests show that as the vehicle's speed increased the impact from the old hard rubber tire increased greatly. The impact from the new hard rubber tire was somewhat less.

Approximate Speed. Miles per Hour.	Drop in Inches.	Impact in Pounds with Old Tire.	Impact in Pounds with New Pneumatic Tire.	Impact in Pounds with Pneumatic Tire.
5.7	2	11,600	9,400	7,100
10.2	2	18,500	14,100	7,800
14.6	2	26,500	18,700	8,300

Related to these tests is another series which utilizes the figures secured in the first experiments. Several paving slabs were tested by means of a machine designed to give impacts equivalent to those produced by the rear wheel of the heavy truck already referred to. The unsprung portion of the weight of this machine is 1,500 pounds and the sprung portion weighs 6,000 pounds. The tests were made by raising the entire weight through a height of ⅛ of an inch, allowing it to fall 500 times, then to a height of ½ inch with 500 repetitions, then ⅜ inch more in height, and so on until the slab failed. To date about 12 slabs have been tested, laid on a rather wet subgrade. A surprising difference has been found in the strength of the different types of pavements tested. The total number of blows required to cause failure has varied with the different slabs from 67 up to almost 2,000. All these data promise to be of the greatest value to engineers in selecting material for roads of various types.

The Bureau of Public Roads is also making a study of the relative wearing qualities of different types of pavements and tests have been about completed on a short section of pavement containing 49 different types subjected to the wear of a special truck equipped with five large cast-iron disk-like wheels. The relative wearing qualities of hard as compared with soft brick are brought out very distinctly in this test. The resistance to wear of various kinds of stone block sections is also shown to good advantage. A chance to compare grout and asphalt fillers for both brick and stone block is also furnished, likewise the relative wearing qualities of concrete when mixed with various kinds of coarse aggregates is indicated.

The investigation of subgrade materials started a few months ago with the coöperation of the district engineers and state engineers is proceeding at a very satisfactory rate. A number of samples have been received from various parts of the country, and laboratory analyses of many of these samples are partially completed. The methods being used by the Division of Tests will shortly be published as a paper so that any other laboratories wishing to conduct similar investigations may have some guide as to the method of procedure being followed by the Bureau of Public Roads.

The Walden W. Shaw Livery Company of Chicago, has changed its name to the Yellow Cab Manufacturing Company, following the abandonment of the Shaw taxicab service and its incorporation in the Yellow Cab system. A new factory at 5801 West Dickens Avenue has been occupied and is in full operation.

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A MOTOR TRUCK SHOW
BY MOTOR TRUCK PEOPLE
FOR MOTOR TRUCK USERS

The 1921

MOTOR TRUCK SHOW

will be held under the auspices of

The Motor Truck Association of America, Inc.

144 West 65th Street New York City

AT THE

Twelfth Regiment Armory

Columbus Ave. at 62nd Street

FROM

January 3rd to January 8th, 1921

A Feature of this Exhibition will be the large showing of economy devices for Motor Trucks

A VISIT TO THIS SHOW WILL BE A LIBERAL EDUCATION

For Information Address
T. D. PRATT, General Manager
144 West 65th Street, New York City

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Goodyear Closes Best Year

George M. Stadleman, vice-president of the Goodyear Tire & Rubber Company, says:

"In spite of the present depression in business throughout the country, Goodyear Tire & Rubber Company will, on October 31, close the largest sales year in its history. While it is impossible to state just what our total sales will amount to, they will be in excess of $205,000,000, which, compared with $167,000,000 in 1919 and $9,560,000 ten years ago, should offer significant testimony as to the possibilities of the future. Here on the threshhold of a new fiscal year, and in spite of existing conditions, we find ourselves in the most favorable strategic situation, from a sales standpoint, that we have ever enjoyed. Notwithstanding all the difficulties we are having to confront, our present position in the trade makes my conviction absolute that the situation in our particular industry is wholly temporary. If every car and truck owner in America would this afternoon buy just one tire there would be an actual shortage. As to normal stocks there is no occasion to worry over the present supply long interfering with sales or production."

According to figures compiled in Akron, the tire center of the country, there are 7,579,000 automobiles in the country and less than 6,000,000 tires in excess of normal stocks now on the dealers' shelves. On this basis, the reduction in tire production means a severe shortage of tires next spring, in the opinion of officials in rubber factories there.

Trucks to Hurry Road Work

For the first time in Utah history the state road commission will deliver by motor truck cement for a road contract. The supply of freight cars is so inadequate that, were it not for the fleet of trucks which the state owns, it would be impossible to complete the state road contract at Lehi. Thousands of tons of cement will be hauled by the state trucks from Salt Lake to Lehi. The state is anxious to push the work as an important link in a long strip of highway which both the state road commission and the city and county officials wish completed before snow flies. But recently, owing to car shortage, the supply of cement was cut short, threatening to stop the work.

Good Highways and Trucks Increase Value of Rural Lands

Motor trucks and highway development may be the economic factors which are responsible for as much as 100 per cent annual increase in land values in various sections of the country. Officials of one southern community, Hinds County, Mississippi, in campaigning for a $1,000,000 highway bond issue, claim that motor trucks, operating on good roads, have raised land values from $25 an acre five years ago to $100 and $125 an acre at present valuation. County supervisors submitting the issue to a vote of the people, attribute their decision to ask for this sum "to the great agricultural, commercial and educational development of the country due to the use of the motor truck, tractors and passenger cars."

Investigation has developed that the farther away from town on improved roads real estate lies, the greater the percentage of increase in value with the advent of good roads. Within 5 miles of an eastern city, where recent improvements in highways were made, the appreciation in value within five years was only 68.3 per cent. But 10 miles out the percentage of increase was 96.7 and 25 miles away the ratio of increase was 194.9. It is held that the motor truck is equally responsible with the highways for this improvement.

Farms contiguous to fairly good roads have been known to advance in value within two or three years after the construction of hard-surface highways as much as 114 per cent., while the lowest increase has been found to be 9.1 per cent.

With these figures as a basis for estimating it does not require a stretch of the imagination to understand that the increase in land values is in direct ratio to two prime factors. These are the number of miles of improved highway built, and the number of motor trucks added to those already carrying their burdens of produce and merchandise from the farm to the city and the city to the farm.

According to the best reports obtainable, up to June 30 of last year, $1,103,800,000 were available for expenditure upon the highways of the country.

CLASSIFIED ADVERTISING

WANTED—Position with well established company manufacturing trucks and tractors. Can develop engine of exceptional quality for the above purposes and also for marine work. Prefer mid-west or southwest, but these locations not essential. Have had seventeen years' practical experience in this line. Address M. M., care the "Power Wagon."

Trucking Out of Toledo

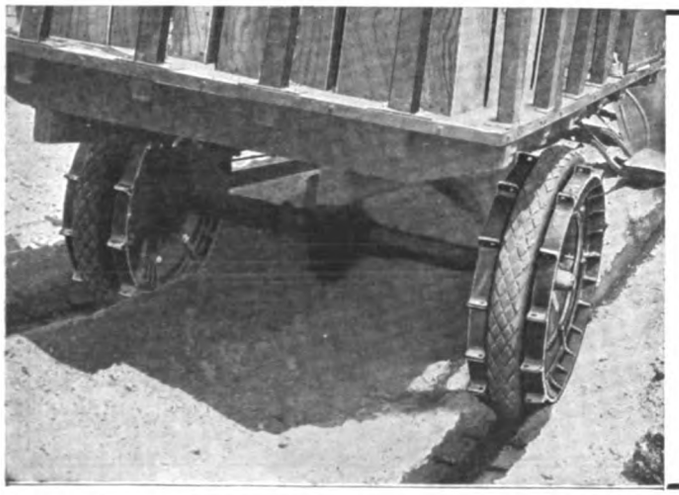
In Toledo, Ohio, the long- and short-haul business by motor truck has developed to such an extent that a union freight depot has been established on Speilbusch Avenue in that city. The depot was started by a number of motor truck transportation companies who are engaged in long- and short-distance hauling. A paid secretary is employed.

The system in use there might well be attempted in every community that hopes to develop to the highest the possibilities of motor truck operation. There are several long-distance routes, for instance. Freight for Cleveland, Detroit and other centers is taken to this depot. If it is less-than-carload freight, it is transferred at this depot to Cleveland or Detroit trucks and hurried through to its destination.

Trucks are always assured of full loads. Through the secretary arrangements for return loads are made. There is no lost time or lost service. Trucks operate out of this union freight depot to 130 towns in the Toledo territory. They make daily runs and have been the greatest help to the railroads in relieving them of the short-haul business as well as to the city of Toledo itself in those crises when, because of railroad or other strikes, the city has had to depend largely upon the motor truck for its supplies.

The Toledo development is being duplicated in many of the bigger centers of the country. It gives an idea of the great field ahead of the motor truck industry.

Practically all the Toledo trucks, except those of the larger sizes, are equipped with pneumatic tires, insuring not only quicker service because of the higher speeds made possible, but enlarged radius of operation.



Sell Easily on First Demonstration

A demonstration of the pulling power of Foley Traction Rims on soft roads, or in sand and mud, will create a sale to every truck owner who has had trucks stuck in impassible spots.

Foley Rims do not come into play until soft places are encountered. THEN THEY PULL!

Sold only through dealers—A few more live-wire dealers wanted.

Made for every make of truck on the market, whether equipped with pneumatic or solid tires.

Showing Ford One-Ton Truck fitted with Pneumatic Tires, and equipped with Foley Traction Rims, two on each rear wheel. Price—$50.00 per set of four, F. O. B. Mpls.

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Please mention "Power Wagon" when writing to advertisers.

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EFFICIENCY-RELIABILITY-DURABILITY
GARY
SIMPLICITY-TRUCKS-ECONOMY

MAKE COMPARISONS

Turn over to the "Motor Truck Specifications" in Power Wagon and see for yourself how much larger and better Gary trucks are than other trucks of the same rated capacity—and after you have learned what Gary users know, please note that Gary prices are **below the average** of over forty different makes of heavy duty worm drive trucks.

We have some open territory.
We can make mmediate deliveries.
Our proposition to dealers is the most liberal to be had anywhere.

Write or wire today

The Gary Motor Truck Co., 2300-2316 W. 9th Ave. GARY, INDIANA

1, 1½, 2½, 3½ and 5 ton Special Farm Wa_on, Special Motor Bus, Special Tractors

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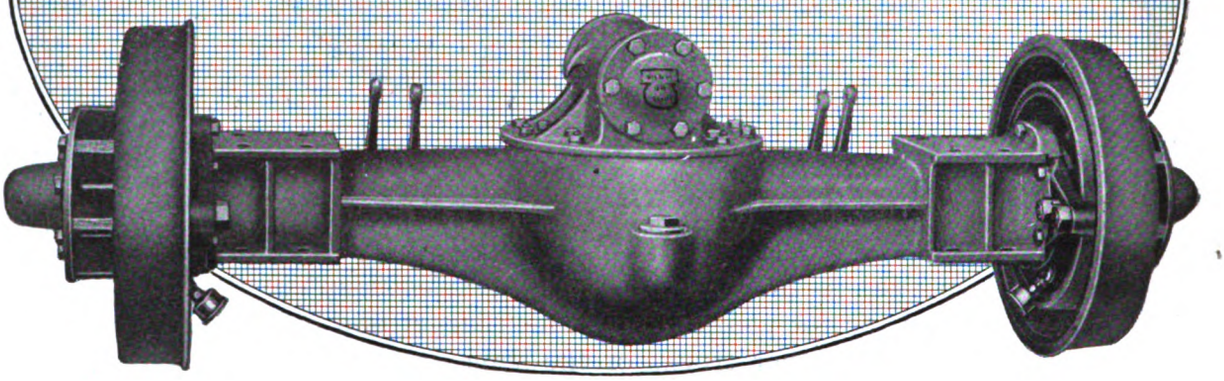
WISCONSIN AXLES



Wisconsin Worm Drive Axles Achieved Success Through Performance

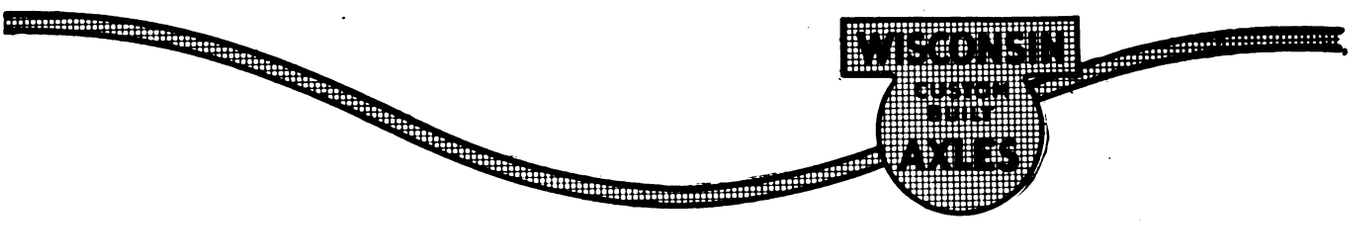
Thirty-five manufacturers of high grade trucks use Wisconsin Axles. This remarkable sales record is due to the record performance of the product.

Wisconsin Axles are the most efficient because they were designed to give the lowest operating costs. The worm gears are 97% efficient which exceeds any other form of bearing. Ball bearings justify their high price, because they transmit more power. The expensive brake design using two sets of drums and shoes means more mileage without renewing brake lining, and also prevents any brake trouble due to grease or oil because they cannot reach the brakes.

Wisconsin Axles create a dealer good will that has kept our list of customers growing just as fast as we find ourselves able to take them on.

WISCONSIN PARTS COMPANY

OSHKOSH, WISCONSIN



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The Largest Trailer Plant in the World

Sell the Trailer These Great Firms Choose

Many Bankers Now Stipulate the Use of Trailers in Financing Truck Sales

These are a Few Large Operators of Highway Trailers

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Southwestern Telephone & Telegraph Co.
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Chicago Telephone Company
The T. M. E. R. & L. Interurban Express Co.
Milwaukee, Minn.
The Fisher Body Co.
Detroit
The Rex Manufacturing Co.
Connersville, Ind.
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Highway Trailers have established a dominant place in the scheme of modern transportation.

Nothing could emphasize their importance more strongly than the recognition of their economy and efficiency by hundreds of concerns, whose business extends not only throughout America, but in every part of the world.

And now many bankers have endorsed the utility and earning power of the trailer, by stipulating the use of trailers as a condition to financing truck sales.

Every truck in your territory is a prospect for Highway Trailers. The time seems near when every truck sold, will sell one or more trailers.

The quality and construction of Highway Trailers is proved by the fact that it was the only trailer accepted without design change by the U. S. government, which operates more than $1,000,000 worth.

You can sell the advantages that made Highway Trailers the choice of all these. It is your opportunity to build a big profitable business. Write for details.

Note Price Advantage of Highway Trailers

1½ Ton $785 4 Ton $1325
2½ Ton $995 6 Ton $1695

The Timroth Motor Express Co., of Chicago Operates a Large Fleet of Highway Trailers in Connection with 150 Trucks. "Each of my trailers earns $25 a day," Says Mr. Timroth.

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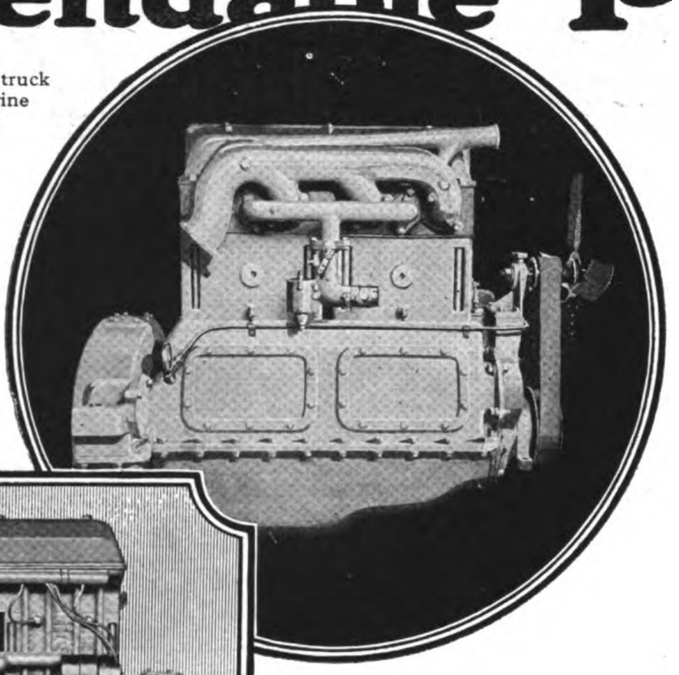
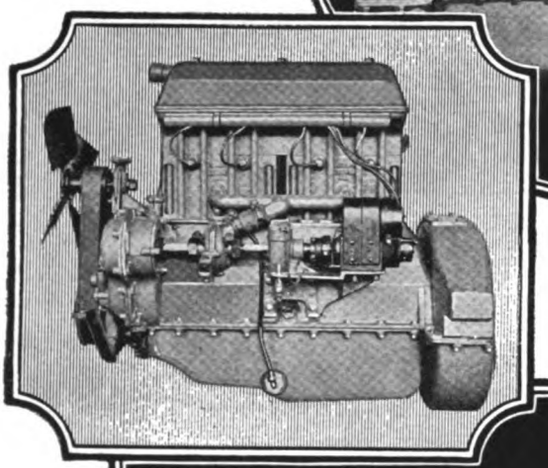
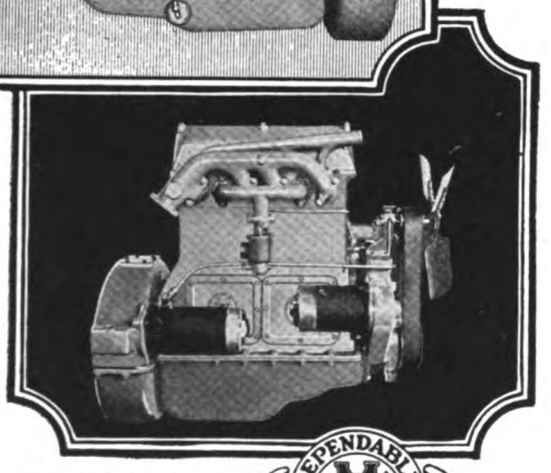
Dependable Power

Midwest 4½" x 6" truck and tractor engine



Midwest 4⅛" x 5¼" truck and tractor engine





Midwest 3½" x 5" truck and tractor engine

Regardless of whether for high or low speed service, the Midwest line of truck and tractor engines, by the sheer merit of their performance, has invariably satisfied, and in most cases exceeded, our guarantee and also the expectations of truck and tractor engineers.

Because of this exceptionally fine performance it is only logical for users to prefer trucks and tractors equipped with Midwest engines.

You should be able to satisfy their demand.

We will exhibit our Truck and Tractor engine at the New York and Chicago Automobile Shows and at Columbus Tractor Show, February 7 to 12.

MIDWEST ENGINE CO.

Indianapolis, U. S. A.

MIDWEST

TRUCK and TRACTOR ENGINE

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SHORT HAULS

By Motor Truck Train Must Unsnarl the Freight Tangle

AUTOMOTIVE ATC TRAILER

The Only Remedy for Rail Freight Congestion

THE only remedy for the appalling congestion in rail freighting—which is causing stagnation of industry—is to freely apply motor trucks **and trailers** in the whole field of the short haul.

In general the railroads lose money on short hauls. Their executives openly admit as much, and many of them either want to get rid of this unprofitable and embarrassing feature of their business, or else want to reorganize facilities for its retention. They believe it should be undertaken by trucks **and trailers**—by road trains which provide a system of transportation so elastic as to make freight congestion impossible.

It is now quite clear that any improvement in short haul rail service can only be obtained at the expense of the more profitable long haul service. Under existing conditions the two are antagonistic. This being the case it is but natural that the railroads, perceiving the great advantages of the motor truck train, are actively considering it as an auxiliary and developing its potentialities to maximum.

Many freight traffic managers are at work on the problem. They and the business world they serve at last realize that the day of the road train is actually at hand.

This decision on the part of the railroads will cause a corresponding change in road transportation in general. Hereafter the general purpose of motor trucking will be to develop the cheapest method of hauling merchandise—not necessarily by a single unit, but by multiples wherever their employment is indicated.

The most economical form of road transportation is that which makes provision for the application of motor trucks **and trailers.**

Write for our dealer proposition.

COMPLETE LINE

4 Wheel Semi Pole 2 Wheel

1 to 15 Ton Capacity

Automotive Trailer Corporation

Factory and General Offices: SPRINGFIELD, ILL.

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THE SATURDAY EVENING POST
When You See
a Truck with these Torpedo-Shaped Hub Caps
It has Sheldon Axles! The axles
and ball bearings that never need
built on the locomotive axle prin
adjustment during the entire life
ciple of widely-spread bearings
of the truck. Made for trucks
the axles with worm gear dr
from ½- to 5-ton capacity.
SHELDON AXLE &
NG COMPANY, Wilkes-Barre, Pa.
Sheldon
AXLE
FOR MOTOR TRUCKS

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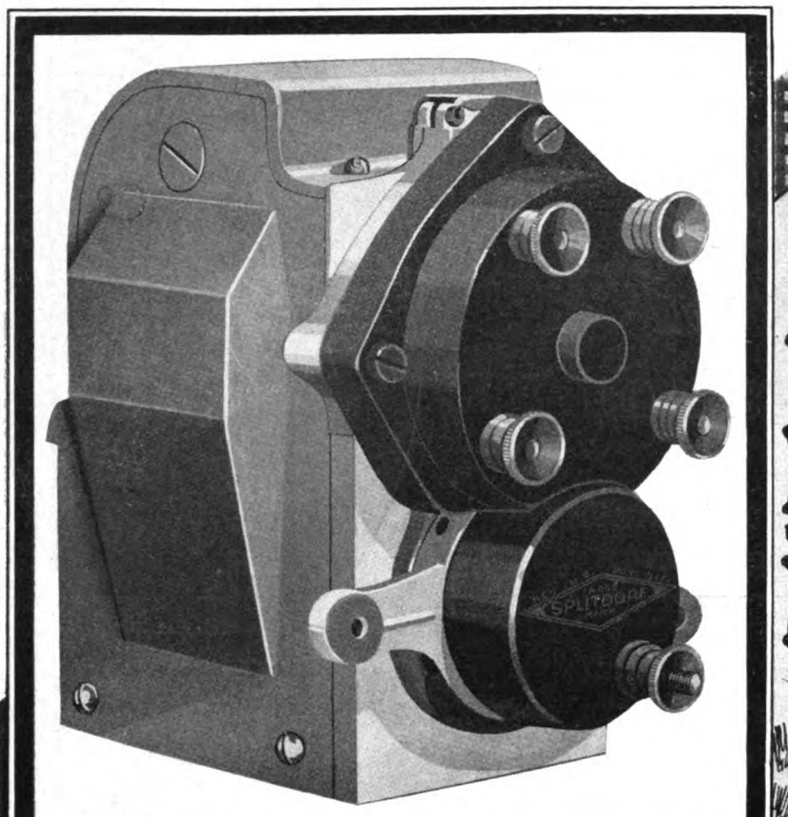

Splitdorf Aero Magneto

There's a Power-ful Difference

There's a big difference in motor truck performance—a difference in operating costs; in service ability.

Ignition Equipment often is responsible for that difference.

Splitdorf Ignition has helped America's best trucks earn a reputation for long life, low operating costs and uniformly good performance.

The Splitdorf Aero Magneto fires unidirectional sparks of absolutely equal intensity—*every spark always the same.*

It wrings every ounce of power out of every drop of fuel—*every time.*

That is the *power*ful difference in magnetos—the reason why many fleet owners find it worth while to insist on Splitdorf.

SPLITDORF ELECTRICAL CO.
NEWARK, N. J.

14 Direct Factory Branches
More than 200 Service Stations

TRADE
SPLITDORF
MARK

ESTABLISHED
1 8 5 8
SPLITDORF
ELECTRICAL CO. NEWARK, N.J.

WORLD'S
LARGEST MAKERS
OF IGNITION EQUIPMENT
MAGNETOS-SPARK PLUGS-PEENED PISTON RINGS ETC.

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Strom Bearings Increase the Economy of Motor Operation

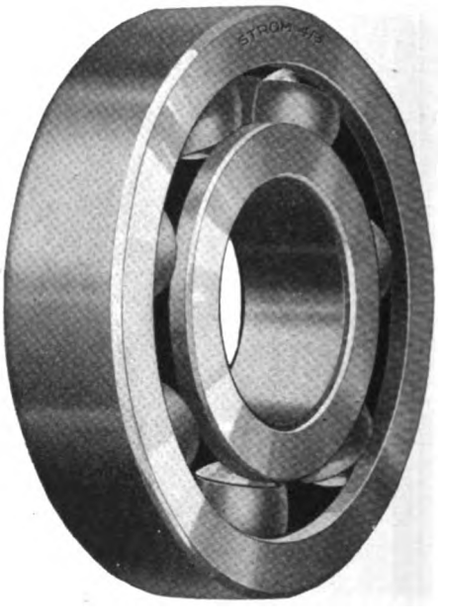
Whether used in passenger cars, trucks or tractors, Strom bearings decrease the cost of operation.

They reduce friction to a minimum. Less power is required to drive the car. This means more miles per gallon of gasoline and quart of oil.

There is a Strom bearing of the highest quality correctly designed for every application. Our modern, approved method of heat treating, gives maximum strength to the highest quality steel.

Strom engineers are experts in bearing design. They can be of invaluable assistance in helping solve your bearing problems.

Do not hesitate to ask their advice.



Radial bearings made in a wide range of sizes for light, medium and heavy duty.

Angular contact bearings especially designed to support combinations of radial and heavy end thrust loads.

Thrust bearings made in all types and sizes with flat and grooved races.

U. S. BALL BEARING MFG. COMPANY
(Conrad Patent Licensee)
4541 Palmer St., Chicago, Ill.

Strom BEARINGS

(46-C)

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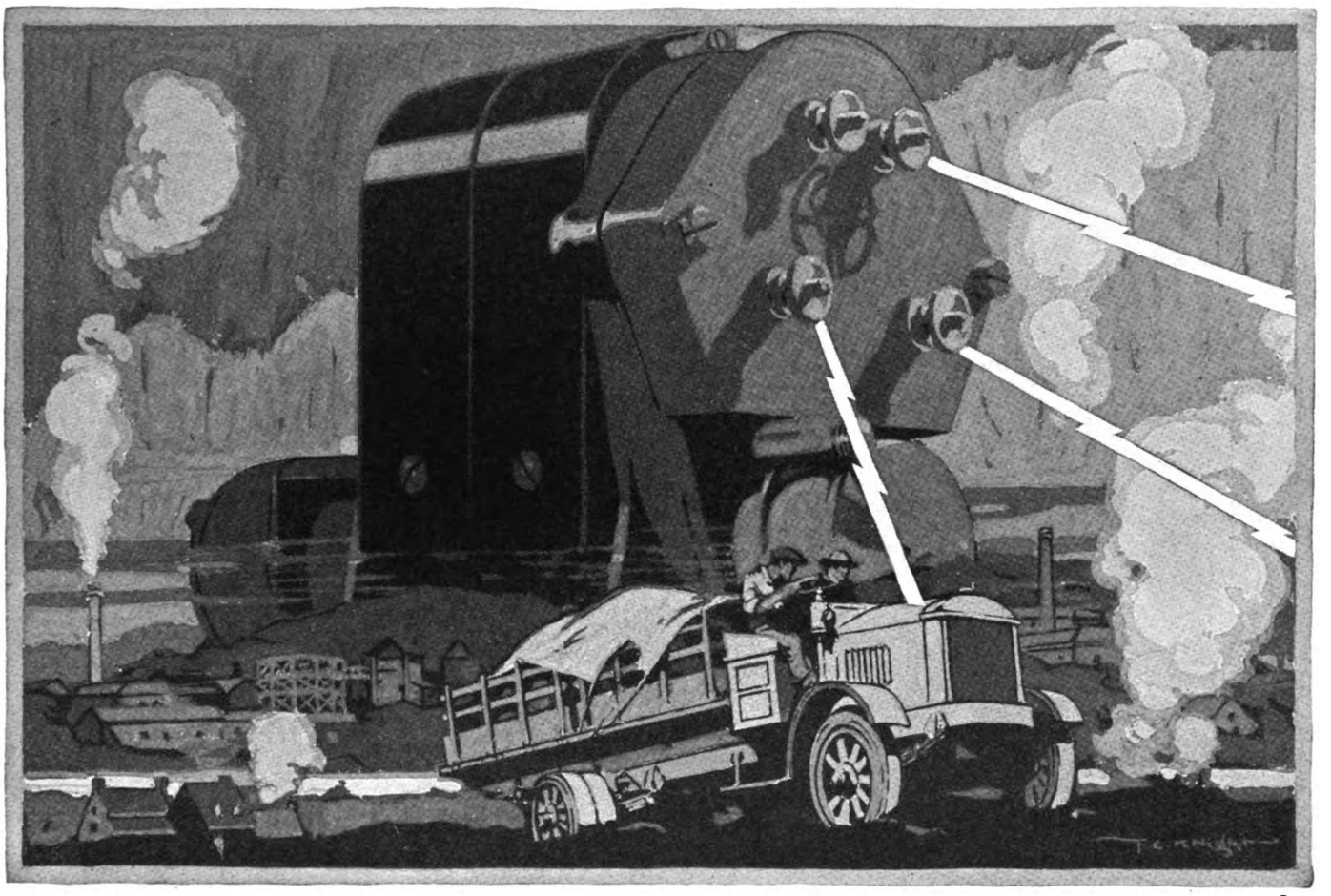

IGNITION CAN BE A HELP OR A HINDRANCE

A Motor Truck is easier to sell if it has Bosch Magneto Ignition.

Truck owners and drivers everywhere recognize in Bosch an ignition system which insures the greatest possible power, efficiency and dependability in an engine. Therefore, when they see a truck Bosch-Equipt they accept it as a thoroughly dependable product.

Don't curtail sales by handling a truck with ignition which buyers either do not know or do not trust.

Tell your truck manufacturer to use Bosch Magneto Ignition. Its three million users, its unparalleled reputation for dependable service, its four hundred service stations and its huge advertising campaigns are the biggest selling assets you can have. No other ignition manufacturer can furnish aids of their size and strength. See that you get all of these Bosch Assets on the truck you sell.

BE SATISFIED ***SPECIFY BOSCH***

American Bosch Magneto Corporation

Main Office and Works, Springfield, Mass.
Branches: New York, Chicago, Detroit, San Francisco

400 Service Stations in 400 Centers

BOSCH

Digitized by Google

DIETZ LAMPS

DIETZ "CONVOY" DASH LAMP

(For Kerosene)

THE Dietz "Convoy" Dash Lamp combines the three essentials for this type of lamp. First of all, it is a generous and reliable light giver. Second: It is compact in size, fitting snugly against the dashboard and out of the way. Third: It is a fine looking, little lamp—well designed, well made, well finished—suitable equipment for any Motor Truck.

Our New Motor Lamp Catalog is just off the press. Send for a copy

R. E. DIETZ COMPANY
60 Laight Street New York
Founded 1840

JAMES BARNES, Sales Manager, Motor Truck Lamp Dept., CARTER BLDG., ROCHESTER, N. Y.

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THE SATURDAY EVENING POST
October 2, 1920
Mo-lyb-den-um Steel
The American Super-Steel
and
YOUR GASOLINE BILLS
Gasoline is high. It may go higher.
The public demand is greater economy.
Economy, in a motor car, is measured by the extent to which useless weight is eliminated.
Whether little or big, a motor car is a product of steel.
The better the steel, the greater the elimination of useless weight.
The economy of your car or truck is therefore, dependent upon the quality of its steel.
Hence your gasoline bills bear a definite relation to the quality of the steel from which your car is made.
Molybdenum Steel is the strongest and toughest steel made. The performance of Molybdenum Steel in the Liberty Motors and the "Baby Tanks", during the War, speaks for itself.
BE SURE YOUR CAR OR TRUCK IS MADE OF MOLYBDENUM STEEL
The United States is dependent upon importation from foreign countries for all steel alloying elements except Molybdenum. The world's chief source of this metal is at Climax, Colorado.
Climax Molybdenum Co. associated with The American Metal Co., Ltd.
61 Broadway — New York
Climax Molybdenum Company is the largest producer of Molybdenum in the World.
GAS
Molybdenum
Commercial Steels

Knowledge is the Basis of Confidence

Our Book, "Molybdenum Commercial Steels," a 72-page volume of specific data obtained in the commercial use of many thousands of tons, will be sent on request.

The time is not far distant when the use of Molybdenum Steel will be accepted by all buyers as conclusive proof of extra quality and serviceability in an automobile or motor truck.

Developing this confidence is simply a matter of acquainting the general market with the distinctive superiorities of Molybdenum Steel for automotive duty—and that is the purpose of the Climax national advertising campaign which is now in progress.

The page here reproduced is the second in a series which will be addressed to motordom throughout the coming year.

Climax Molybdenum Co. associated with **The American Metal Co., Ltd.**

61 Broadway
New York

CLIMAX Mo-lyb-den-um The Commercial Alloy

Climax Molybdenum Company is the largest producer of Molybdenum in the world.

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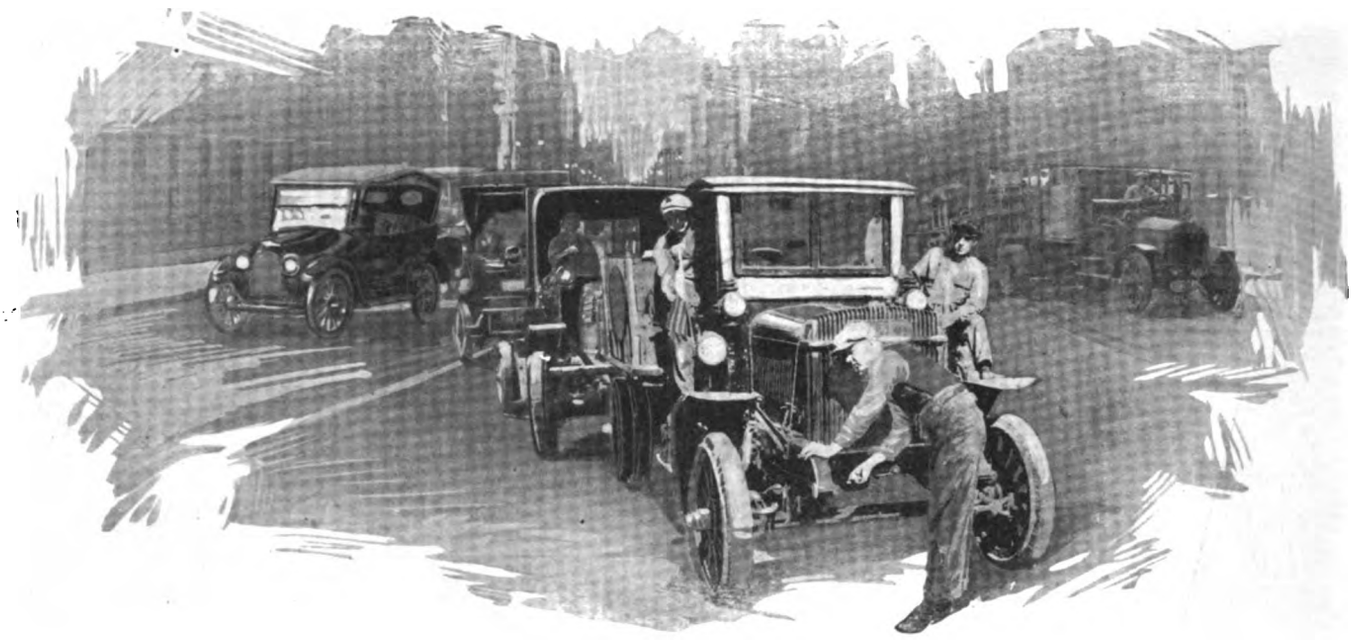

More Than An Annoyance —A Needless Expense

Stalled! And the time of three men is wasted while they endeavor to spin a hard-starting motor. Even the strongest man may not be equal to the task that the

Exide
BATTERY
For Gas Truck Starting and Lighting

does at the touch of a pedal.

Better deliveries, less wastage of gas from idling motors, more contented employees—these are some of the assured results of equipping with the Exide Truck Battery.

Built to stand up under the most severe truck service without special spring mounting.

Write and let us tell you why this battery—*built for the army tanks*—will absolutely make good in your solid tired gas trucks

THE ELECTRIC STORAGE BATTERY CO.

Oldest and largest manufacturers in the world of storage batteries for every purpose

1888 PHILADELPHIA 1920

BRANCHES IN 17 CITIES

Special Canadian Representatives: Chas. E. Goad Engineering Co., Ltd. Toronto and Montreal

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Universal

Steel Cushioned Wheels **HUBLESS** **FULL FLOATING** **Mead Cushioned Wheels**

TRUCK WHEELS

A Practical Wheel for Trucks, Tractors and Trailers

Simple in Construction

Mechanically Correct in Construction

Vibrations and Hammer Thrusts from Road Contact are Absorbed in the Wheel

The Wheel Designed with a Knowledge of Traffic Conditions

This Wheel Excels in Resiliency, Efficiency, Durability and Economy.

Reduces Gasoline Expense 25%

Reduces General Upkeep Expense More than 50%

Protects the Engine and Chassis against Crystallization

A Practical Wheel for Any Truck on Any Road with Any Load

This Wheel Meets the Growing Demand of Truck Users for Reducing Upkeep, and for Protection from Engine, Tire and Chassis Troubles.

A Wheel With Perfect Drawbar Pull

This Wheel Rides with the Resiliency of Pneumatic Tires and is not injured by Oils, Acids, Salts or Other Chemicals, because the Rubber is fully protected.

Initial Investment Compensated by Reduced Aftercost Plus Upkeep

PITTSBURGH TRUCK WHEEL CORPORATION
General Offices: 405 Fulton Building
PITTSBURGH, PA.

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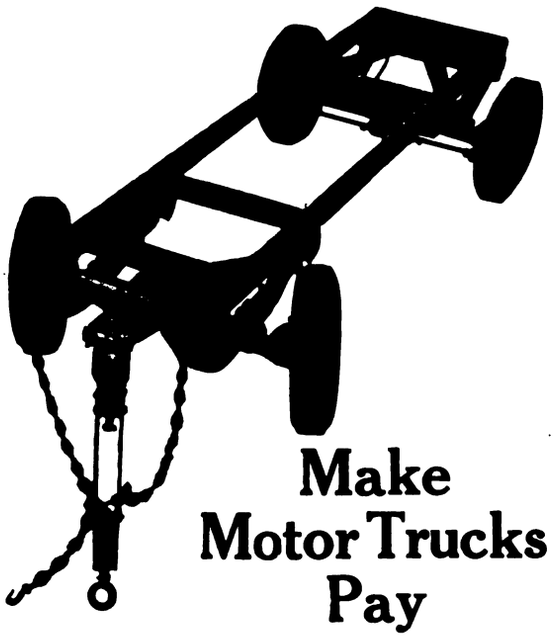
LEE TRAILERS



Make Motor Trucks Pay

If one of your customers asks your opinion about trailers, are you prepared to give him a good trailer talk?

No matter whether he will ever be a truck prospect again, you owe it to yourself to sell him a trailer if you can.

Why not be something more than a truck dealer? Be a transportation engineer and sell trailers incidentally.

Many truck dealers early realized the advantage of selling trailers. Their truck sales have increased.

A wise dealer sells trucks and trailers, preferably *LEE* trailers.

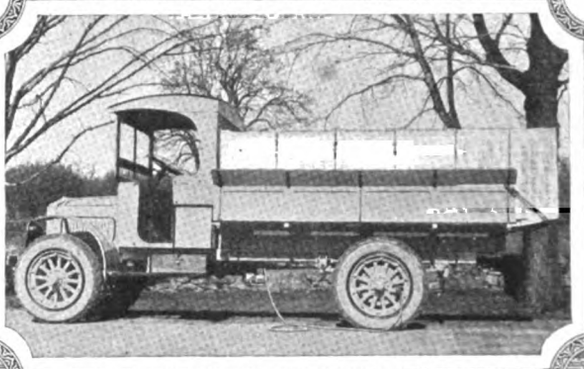
By doing so he makes two blades of grass grow where one grew before.

Send for Lee Line data sheets.

LEE LOADER & EDDY CO.

Builders of Automotive Auxiliary Equipment

2337 So. La Salle St. Chicago



No Motor Truck or Motor Car is completely equipped that is not equipped with a Kellogg Engine-Driven Tire Pump

Make Sure Your Motor Truck or Motor Car Is Equipped With a KELLOGG Engine-Driven TIRE PUMP

Price reductions of motor trucks and cars may, in some cases, necessitate curtailment of standard equipment.

See that your motor truck or car comes completely equipped—with a KELLOGG Engine-Driven TIRE PUMP.

Without KELLOGG Engine-Driven TIRE PUMPS it would not be possible to operate motor trucks equipped with pneumatic tires. And they are a necessity on motor cars today.

Practically all of the leading motor trucks and motor cars manufactured today are equipped with KELLOGG Engine-Driven TIRE PUMPS as standard equipment.

A KELLOGG PUMP on a truck or car is an indication of superiority of construction and materials.

CAUTION
Make sure your Motor Truck or Motor Car is equipped with a KELLOGG Engine-Driven TIRE PUMP

KELLOGG MFG. CO., Rochester, N.Y., U.S.A.

KELLOGG TIRE PUMPS

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A leaky tank is worse than useless—it's dangerous! Day after day it **costs the motorist money** in wasted fuel—and day after day it's inviting an explosion of fire.

Made of the finest seamless drawn steel — tested and proved — the **"Jasco"** Tank will not leak, no matter how rough the service.

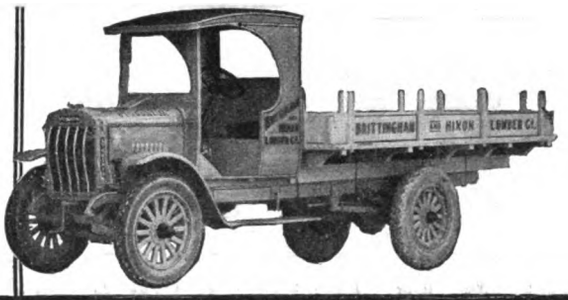
When you see a **"Jasco"** equipped car you'll know that the manufacturer believes in giving his customers the best. Send for booklet and detailed information.

We are prepared to handle contracts for deep drawn steel work. Send specifications.

Janney, Steinmetz & Company

Main Office: Philadelphia

New York Office: Hudson Terminal Bldg.



STOUGHTON

Extra Wear in Every Part

Lower upkeep — longer life — greater service in this new Stoughton Oversize Truck. Built by an organization mature in manufacturing experience it sets a new standard in truck construction. The name Stoughton has been famous for 65 years—the new Stoughton Truck is giving the name even greater significance.

Stoughton Oversize Trucks are well balanced, dependable, low in operating costs. Three models—1½, 2 and 3 ton—designed for extraordinary service at a reasonable price.

If your territory is open it will pay you to put this truck on your sales floor. Write or wire for specifications and details.

The Stoughton Wagon Co.

Stoughton, Wisconsin

Oversize **S**

TRUCKS

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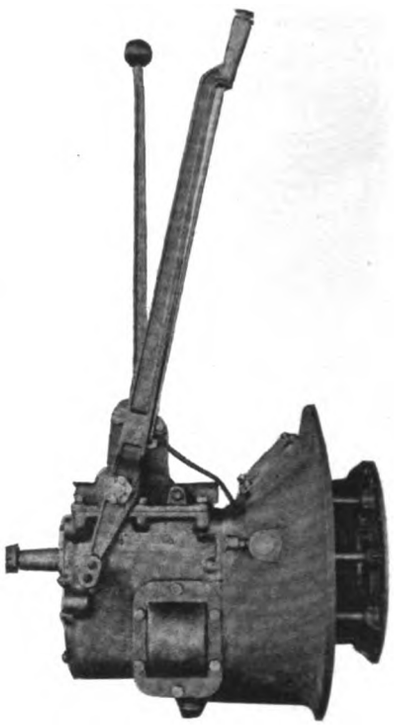
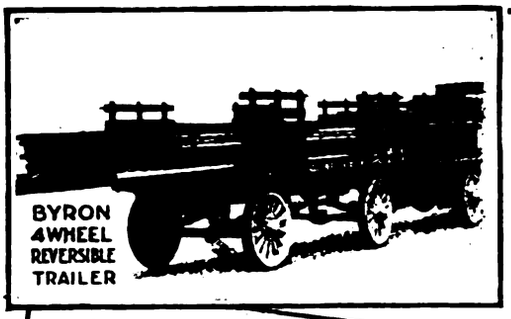
FULLER
TRANSMISSIONS

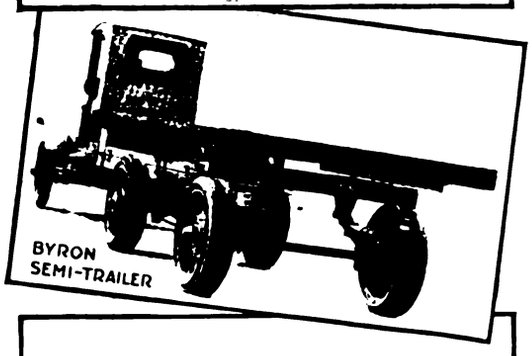
Fuller Transmissions are probably the most conservatively rated transmissions. The Engineering Department has set a maximum recommended capacity on each transmission and will not permit a Fuller Transmission to be used with a motor too large for its rated capacity. Add to that the careful workmanship and good materials used, the truck buyer is insured maximum service wherever a Fuller Transmission is used.

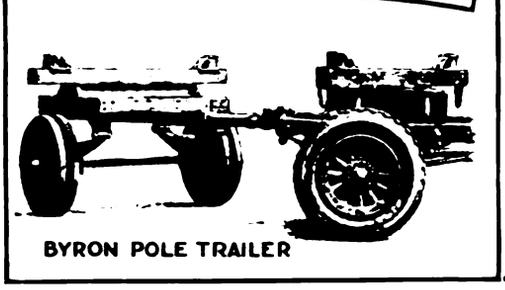


FULLER & SONS MFG. CO.
Kalamazoo, Mich.

Detroit New York San Francisco







Sturdy---Dependable

BYRON TRAILERS

meet every hauling requirement

Note the rugged strength and powerful construction of the three BYRON TRAILER types shown at the left. BYRON TRAILERS are built to withstand hardest service, hence they give complete satisfaction under every condition of use.

BYRON TRAILERS have distinct points of superiority that make them the logical choice of the careful buyer. The BYRON steering mechanism is exclusive, patented construction, and definitely solves the problem of quick, easy and safe handling of the trailer. Complete specifications sent on request.

The BYRON selling-franchise is a splendid opportunity for live, energetic dealers. Some good territory is still open. Write

BYRON ENGINEERING WORKS

INCORPORATED

General Offices and Factory

LOUISVILLE, KENTUCKY

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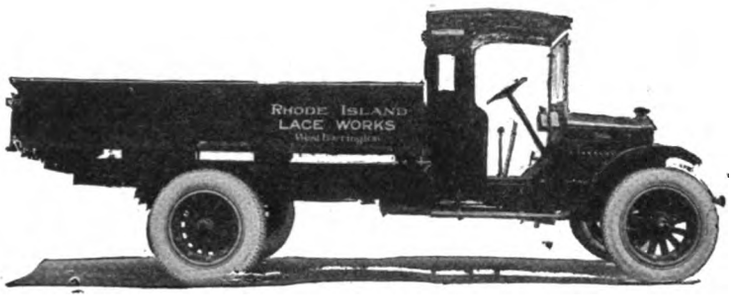
Every Merchant Is a Potential Buyer of Rainier Trucks



Dominating Features of RAINIER WORM DRIVE Trucks:

Continental Motor
Brown-Lipe Clutch and Transmission
Timken and Sheldon Rear Axle
Zenith Carburetor
Magneto Ignition

(F.O.B. New York) Chassis Prices

Model R-11, ¾ to 1 ton	$2150	Model R-6, 1½ ton	$2450
Model R- 9, 1 ton	2350	Model R-8, 2 ton	2900

Rainier

Trade Mark Registered
WORM DRIVE TRUCKS

This is just as true in the city of 10,000 as here in New York where 1000 Rainier Worm Drive trucks are carrying the loads of merchants in practically every line of business.

The success of Rainier Trucks in New York, Philadelphia and other large cities can be duplicated elsewhere. Every business man and manufacturer in your city is a potential buyer.

The Reason

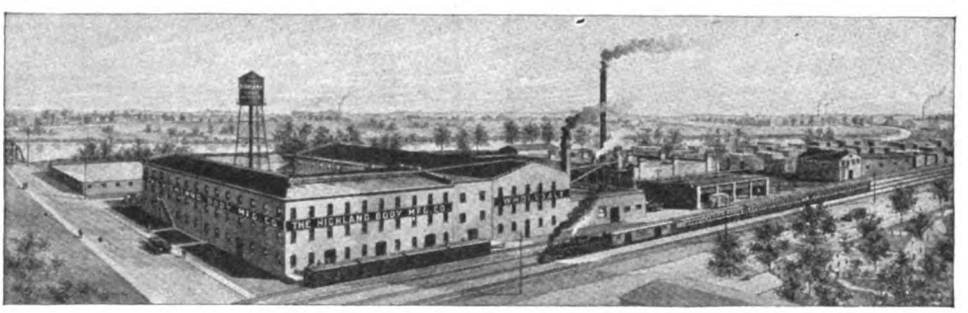
Rainier Worm Drive trucks are made in the most popular sizes. They are most universally adopted to **Average** business needs. FURTHERMORE, they are built rugged enough to stand up under forced service, and the pressure of busy seasons.

There is a wonderful opportunity for live dealers in fertile territory for the sale of Rainier Trucks. Sales resistance is small, profits are good, a big organization is behind you. Write today for information about the Rainier Dealer's proposition.

RAINIER MOTOR CORPORATION

Salesrooms:
227 West 58th Street, New York City
Factory: **Flushing, Long Island, N. Y.**

HIGHLAND STANDARD BODIES AND CABS



THE HIGHLAND BODY MFG., CO.

CINCINNATI OHIO

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SMITH
PRESSED STEEL FRAMES

Made in the Largest and best equipped frame plant in the World

A. O. SMITH CORPORATION
MILWAUKEE

Detroit Office: 708 Ford Building

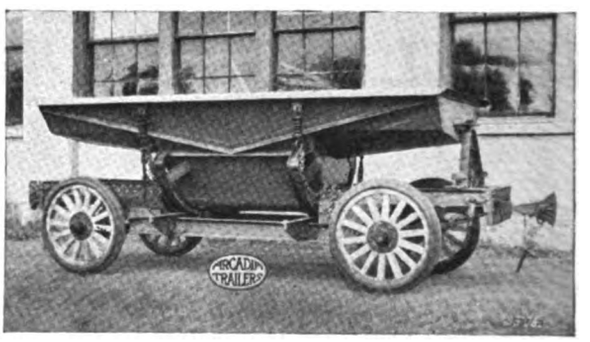
PATRIOT
Motor Trucks

B. T. Hammett, Yselta, Texas, wrote:

"This is to certify that I loaded a two and a half ton Patriot Truck with 5000 lbs. of potatoes on the river and hauled them over dirt and sand road to the paved road, a distance of three miles, in high gear without any trouble. A feat that has not been equalled, so far as I know, with any truck in the valley."

Patriot Motors Company
Manufacturers
1419 P Street Lincoln, Nebraska

Revere Model	Lincoln Model	Washington Model
1500 to 2500 lbs. Capacity	3000 to 5000 lbs. Capacity	5000 to 7500 lbs. Capacity



CLEAN YOUR CITY
WITH
ARCADIA TRAILERS
Write for Special Circulars

WE BUILD
A Trailer for Every Trade
One to Six Tons Capacity

Trailerize Your Trucks With Arcadia Trailers
Write for Trailer Information

Arcadia Trailer Corporation
23 Murray Street
Newark, New York State

Digitized by Google

Dealers

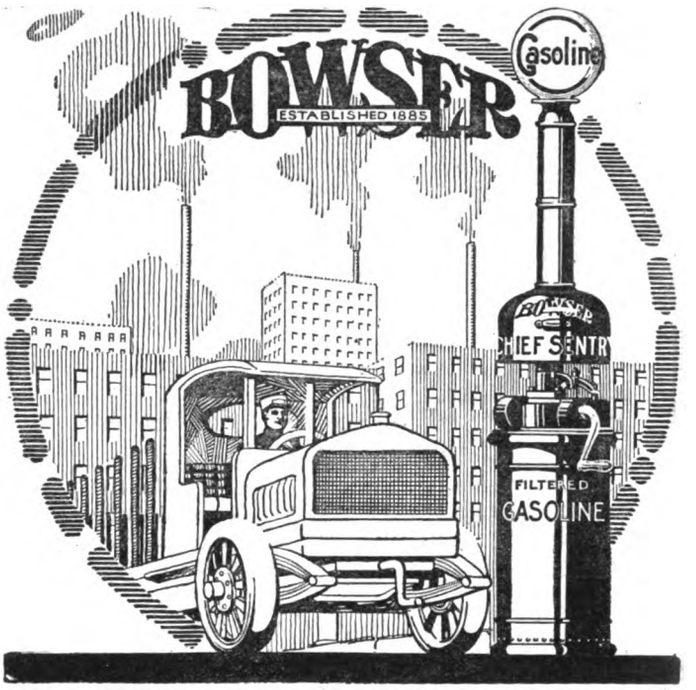
Write, Phone or Wire for our Proposition

Available Trucks
POWER
PERFORMANCE
DEPENDABILITY
QUALITY
INDESTRUCTIBLE
LONG-LIFE
RELIABILITY
DURABILITY
ENDURANCE
ECONOMY
TRUCKS THAT SATISFY BOTH DEALER AND BUYER
A husky, brutal truck, built to deliver its load promptly, continuously and at LOWEST COST PER TON-MILE
7-Ton Available
The Available Truck is known for its perfect balance. Each part, from its super-sturdy frame to its proven worm-drive axle is so perfectly correlated that it is now a practically fool-proof transportation necessity.
AVAILABLE TRUCK CO.
North and Kilpatrick Ave.
Chicago U. S. A.
STANDARD CAPACITIES
1½ to 7 TONS

A Complete Line

Some choice territory still open

Address your reply to our President, Mr. John M. Rath, for personal attention.



Accuracy and Safety with BOWSER Piston Type Measuring Pumps

Gasoline users demand Accurate Measurement and Safety from any danger of fire and explosion. The 35 years' consistent record of Accuracy and Safety of Bowser pumps fulfills this demand.

ACCURACY of Bowser pumps is determined positively by mechanical means. The Piston Type Pump is arranged to permit **exactly** the same amount to be repeatedly discharged.

SAFETY—There is no possibility of breakage or spilling of gasoline with Bowser pumps to endanger lives and property. There has never been a fire caused by a Bowser pump.

S. F. Bowser & Co., Inc.

Fort Wayne, Indiana, U. S. A.

WOOD DETROIT

HYDRAULIC HOISTS AND Steel Dumping Bodies

manufactured by

Wood Hydraulic Hoist & Body Company

Main Factory
1026 Bellevue Avenue
Detroit, Michigan

Branches

New York	Chicago	San Francisco
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Please mention "Power Wagon" when writing to advertisers.

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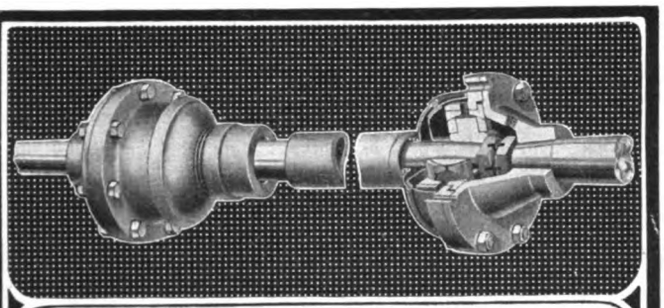

Twice the driving strength

THE Four Point Transmission of the Pick Universal Joint means just double the driving strength over universals with only two driving members—thus making the Pick that much stronger and less subject to wear.

Other advanced features of the Pick Universal are deserving of your attention. Write for details.

Carl Pick Company
Manufacturers
West Bend, Wisconsin, U. S. A.

Pick
UNIVERSAL JOINT

Wolverine

The Truck of Good Service

The Wolverine was "dubbed" such by a user who bought one, then a second and now a third. He bought on **Performance.**

That the Wolverine contains units that the trade recognize as of the best is but natural. No more careful workmanship is used on any truck, nor is the average factory test and inspection as critical.

All this has produced a truck that you can sell on its strength to do the job continuously—to perform economically.

If you are looking for a truck of such nature to sell at a moderate price, wire us for territory and terms.

Of course, the "Wolverine" is equipped with a self starter and electric lights.

American Commercial Car Co.
DETROIT, MICHIGAN

FOR giving maximum mileage and the greatest measure of protection to loaded trucks, Fisk Truck Tires are unsurpassed.

They save money for you.

FISK
TRUCK TIRES

The LAW *of* LUBRICATION

FOR EVERY MACHINE, *of* EVERY DEGREE *of* WEAR *there is* A SCIENTIFIC SINCLAIR OIL *to* SUIT *its* SPEED AND CONSERVE *its* POWER.

Sinclair Refining Co. Chicago

SINCLAIR OILS

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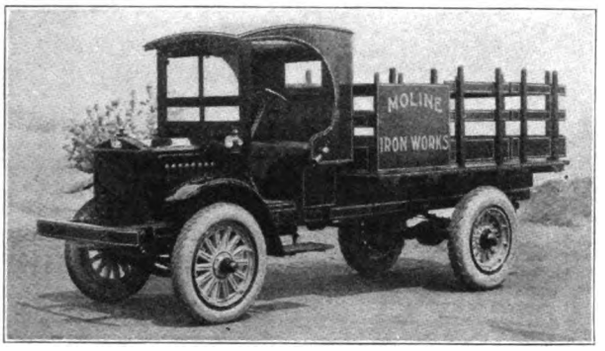
A Fast Seller for the Largest Truck Market



Velie Model 46 Ton-and-a-Half

For 90% of all trucking. Sturdy and dependable. Speedy. First truck to bring our possibilities of pneumatics. Bodies for every service.

Splendid territory yet open to capable distributors and dealers.

Liberal proposition. Immediate shipment. Write or wire for particulars.

Velie Motors Corporation
121 Velie Place *Motor Truck Division* **Moline, Illinois**

Velie Trucks

Commerce TRUCKS

There isn't a franchise on the market today that is more fair and liberal to the dealer.

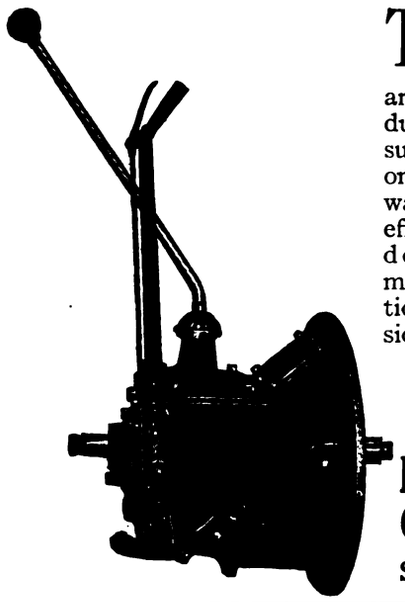
There isn't a truck in the field today that offers greater possibilities than the Commerce.

There isn't another truck built that has as many nationally advertised and favorably known standard units as the Commerce in its construction.

Everything is in its favor—demand, capacity, price, its reputation and stability of the manufacturer and money-making dealers back of it.

The Commerce Motor Car Company
10th Year Manufacturers of Motor Trucks
DETROIT, MICHIGAN

DURSTON TRANSMISSIONS



THE capacity of our factory has been greatly increased recently. We are now in very large production on transmissions suitable for trucks up to one-ton capacity or speedwagons. After years of effort in developing our designs and production methods, we are in a position to deliver transmissions that are RIGHT.

We solicit your inquiries and consideration.

DURSTON GEAR CORPORATION
SYRACUSE N. Y.

THREE B

UNIVERSAL JOINTS

Serve Unfailingly

Model B joints are designed and built to transmit maximum motor power constantly and dependably. Transmission Oil is force fed to Oversize Bearings by centrifugal action, assuring positive lubrication. Feeding is simplified by a single opening in Model B joints and they require a minimum amount of attention.

Drop forged yokes in one piece give them Brute Strength.

A request brings further details.

Blood-Bros. Machine Co.
Pioneer Builders of Universal Joints
Allegan F. Somers Peterson Co. San Francisco, California Western Representative **Michigan**

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WATSON
MOTOR TRUCKS

¾-1 Ton 3½ Ton

Road Tractor *Trailers*

WATSON HAULAGE SYSTEMS

Watson Products Corporation
Main Office and Factory
Canastota, N. Y.

E. & W. MILWAUKEE

Get the Particulars about this Particular Trailer

Write right away for illustrated details of the E&W TRAILER, the reputation-making trailer, the non-swaying, non-shaking, RADIUS ROD, true track TRAILER. Get your inquiry in the mail now.

E. & W. Manufacturing Co.
MILWAUKEE, U. S. A.

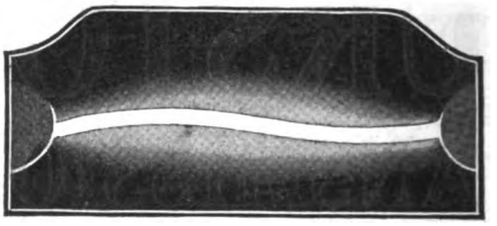
Hydro Hoists and Combination Bodies Are Standard Equipment on Ace Trucks

HYDRO DUMPING EQUIPMENT

The convertible features of the Combination Body combined with the increased loading space and proper load distribution obtained by using Hydro Hoists are everywhere meeting with favor.

It will pay you to investigate the value of this equipment with reference to your trucks. Write for literature.

THE HEIL CO.
1140 Montana Ave. Milwaukee Wisconsin



the white hot "juice" you want, when you want it—and every time!

THE EISEMANN MAGNETO CORP.
32 Thirty-Third Street
Detroit BROOKLYN, N. Y. Chicago

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THIS tag is the sign of the "Tenth Year Federal." It is attached to every Federal truck purchased this year and is significant of the experience and responsibility of a company that, in the past ten years, has produced more than 50,000,000 dollars worth of successful motor trucks.

FEDERAL MOTOR TRUCK CO.
DETROIT, MICHIGAN

Victor

1½ and 2½ tons

The Victor worm drive motor truck is designed to stand rough usage and to give long and continuous service. That it is doing this is evidenced by repeat orders and its large number of satisfied users.

Victor dealers have the satisfaction of knowing that the Victor will make good on every claim that is made for it.

Your territory may still be open.

Write for particulars.

Victor Truck Company
St. Joseph Michigan

TRAYLOR TRUCKS

Products of an Old Organization

Write for Dealer Proposition

Traylor Engineering and Manufacturing Company

Cornwells, Penna.

Patented Connecting Hook and Eye

A Grip that Never Slips

Applied in Two Minutes

With transportation tie-ups everywhere, shippers must get the full use from their trucks. Costly delays on the road must be eliminated.

There is a sure and inexpensive way to keep trucks operating on schedule in any kind of weather and over the worst roads. It is Giant Grip Traction Equipment for Motor Trucks.

Mud, soft sand, snow and ice can stall the most powerful trucks if efficient traction is not provided. But with Giant Grips mud-hole lay-ups and time out for bad roads can be ended.

Clamps are permanently attached to the wheels and chains kept in tool box until needed. At a bad stretch of road these cross-chains are quickly hooked on and the truck has absolute traction. Two minutes' time and his hands are all the driver needs. No tools—no jacking up the wheels.

A Style for Every Type of Wheel and Tire

The Giant Grip line includes a style for any truck, no matter what wheel and tire equipment is used. Yet the dealer has but few models to carry in stock. Broadcast advertising makes quick turn-over sure. Write to us for particulars.

Giant Grip Mfg. Company
Established 1863 Dept. 25 Oshkosh, Wisconsin
Formerly Named Challoner Company

New York Distributors:
SHULTIS AUTOMOTIVE CORPORATION, 16-22 W. 61st Street, New York City

Giant Grip

Traction Equipment for Motor Trucks

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United States Motor Trucks
FLOATING POWER PLANT

As Good As The Name

Seven models

Five worm-drive

Two with Clark axles

1½ to 6 tons capacity

THE UNITED STATES
MOTOR TRUCK CO.
Incorporated
Cincinnati Ohio

DEALERS -- DEALERS

Get after the Side-Dump Body Business and increase the output of Trucks.

DUMPED
with an
AUTOMATIC SIDE-DUMP BODY

To increase the Sales of Trucks put on a Side Dump Body and Watch your Business Grow.

Dumps in any weather.
Will outwear any truck.
No lost space back driver's seat.
Can't break down and get out of order.
Dumps a 3 yard load in a minute and a half.
Dumps all the load off without operating Truck.

Fits Any Chassis

Write for attractive Dealers' Contract.

AUTOMATIC DUMP CAR COMPANY
Sales Dept. A
1701 Ernsperger Avenue, South Bend, Ind.

ATLAS WORM-DRIVE
"MERCHANTS' DISPATCH"

The three vital links of the truck chain

Atlas Motor Maximum power at the speed you drive—22 miles per gallon of low grade fuel (unloaded).

Atlas Transmission A 100% perfect job—we have never had to replace a single broken part.

Atlas Worm-Drive Rear Axle Every worm-drive advantage, without the excessive weight — readily accessible — foolproof in adjustment because of the three point bearing.

Individualized Body Equipment for Every Business

ATLAS TRUCK CORPORATION
YORK, PENNSYLVANIA

PNEUMATIC TRUCK TIRES

Write if Interested!

Splendid selection of factory-blemished and surplus stocks from the better Akron factories

The Rubber City Clearing House Co.
AKRON, OHIO

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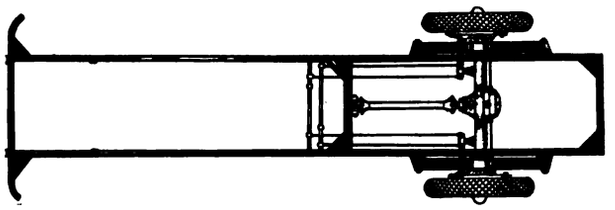
TRUCK UNITS

for Converting Passenger Cars into Trucks



REAR END UNITS
FRONT END UNITS
BODIES, CABS
WHEELS, RIMS
POWER PLANTS

Send for Catalogue

Luverne Motor Truck Co.
LUVERNE, MINN.

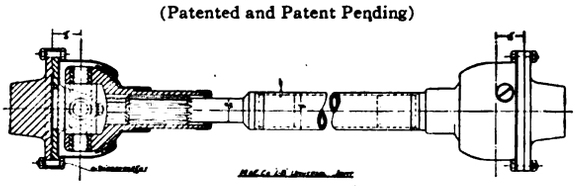
Winther Trucks

A complete line of quality trucks nationally known and appreciated.

Winther Motor Truck Co.
Manufacturers of Motor Trucks and Motor Cars
Kenosha, Wis.

"M & E" Universal Joint

(Patented and Patent Pending)



The "M & E" Universal Joint possesses the necessary strength to carry the load imposed without distorting the parts in any way. It has bearings of sufficient length and diameter to insure proper wearing surfaces.

The working limits on the moving parts of the "M & E" Universal Joint are of sufficient fineness to prevent rattle or looseness and oil or grease will be thoroughly retained.

Write to our Engineering Experts for information and prices.

MERCHANT & EVANS Co
NEW YORK PHILADELPHIA WHEELING
BALTIMORE CLEVELAND
LANCASTER, PA. DETROIT
ATLANTA CHICAGO
KANSAS CITY

The K. & L.
EFFICIENT and DURABLE
RADIATORS

The ACE of Radiators

INVESTIGATE

Send for samples and report on preliminary tests—then send us your B-P's and engine data and let us prescribe for your particular wants and give you our quotations.

We manufacture all sizes and shapes of cores for all purposes. We also build all styles of complete radiators.

THE K. & L. RADIATOR MFG. CO.
618-24 Turner Street, ALLENTOWN, PA.

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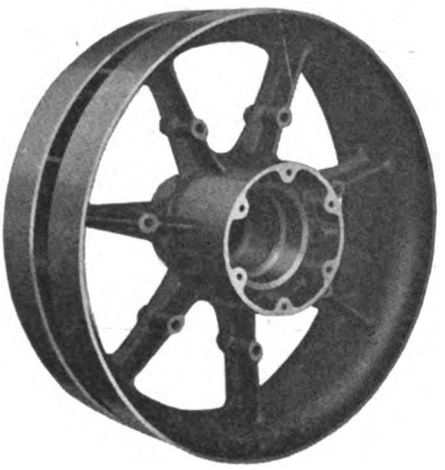
Cast Steel Wheels



Hubs Cast Integral
Any Make of Axle
Any Make of Tire

Specify West Cast Steel Wheels On Your Next Truck Order

THE WEST STEEL CASTING CO.
Cleveland, Ohio

New York	Chicago	Detroit
1790 Broadway		205 Kresge Bldg.

"Watch the WEST STEEL WHEELS Go 'Round"

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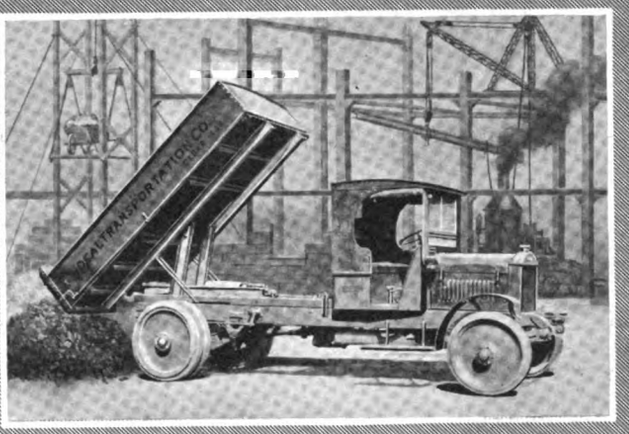

In Service—

The day after day positive performance, never-failing action, absolutely dependable ability of

HORIZONTAL HYDRAULIC

DUMPING UNITS

to deposit any load exactly where it is wanted—to save time and labor—to increase motor truck efficiency—are *facts* that have won the approval of most of America's prominent motor truck manufacturers.

Horizontal Hydraulic Hoist Co.
35 Twenty-fifth St., Milwaukee, Wisconsin
SALES AND SERVICE STATIONS
Chicago: 3755 Wentworth Ave.
Detroit: 605 Gratiot Ave.

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Where Does the New Order of Things Find You?

Revised Prices:

MODEL A
1-1½ tons
Chassis Capacity
Including Weight
of Body
3500 Pounds
$2100

MODEL B
1½-2 tons
Chassis Capacity
Including Weight
of Body
4500 Pounds
$2300

MODEL D
2-2½ tons
Chassis Capacity
Including Weight
of Body
6000 Pounds
$2750

MODEL C
2½-3 tons
Chassis Capacity
Including Weight
of Body
7000 Pounds
$2950

MODEL F
3½-4 tons
Chassis Capacity
Including Weight
of Body
9000 Pounds
$3750

MODEL E
5-6 tons
Chassis Capacity
Including Weight
of Body
14,000 Pounds
$4600

Conditions have changed. The seller's market of yesterday is the ***buyer's*** market of today, and all over the country the sharpened edge of competition's blade is beginning to make itself felt.

No longer is the truck buyer at his wits end where to buy a truck. He is on the other side of the fence today. Where he once chose hurriedly and frantically, he now selects calmly and dispassionately.

That being the case, where do ***you*** fit?

Does it find you secure in your position as the dealer in the dominant value-giving motor truck in America today—DAY-ELDER—or does it find you with a "weak sister" on your hands that hasn't a fighting chance in a broadly competitive market?

Your decision ***now*** will determine your future status in motor truck selling in your community.

With the DAY-ELDER line of six models you are ***secure***—master of a situation that competition cannot assail—the logical contender and winner of the bulk of the motor truck sales in your vicinity.

Write us and we will lay before you a powerful and convincing arra yof facts on DAY-ELDER supremacy that will make you realize that what we have told you in the preceding paragraphs are ***facts.***

DAY-ELDER MOTORS CORPORATION NEWARK, N. J., U. S. A.

DAY-ELDER

Worm-Drive Motor Trucks

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Roller Type

"WHITNEY" CHAINS

Equip Your Motor Trucks and Tractors with "Whitney" Chains

Now that the motor truck is handling so much of the freight that was formerly cared for by the railroads, it must run on a schedule almost as exacting as that of the railroad train itself. This emphasizes the necessity of selecting a chain which can be relied on under all conditions of speed, road and weather.

THE WHITNEY MFG. CO.

HARTFORD, CONN.

Chains **Keys and Cutters** **Hand Milling Machines**

Silent Type

"The Spring is the Thing"

MATHER SPRINGS

Scientifically Heat-Treated

Unequalled For

Lightness, Flexibility and Endurance

Genuine made only by

THE MATHER SPRING COMPANY

Toledo, Ohio.

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Stewart reputation is now world-wide

¾-Ton

1-Ton

1½-Ton

Eight years of satisfactory service prove the Stewart Truck is right---designed right, built right, and priced right. For Stewart Trucks built eight years ago are still working and earning; making money for their owners; building up a reputation now world-wide. The growth of this business has been rapid. Starting with sales of $58,000 in 1912, today business men and farmers invest over a million dollars monthly in Stewarts. Quality reputation brings more orders each month, each year; Stewarts quickly prove their quality by work performed and profits earned for owners.

For Stewart Trucks are designed by experienced truck engineers, without a useless part, without a made-over passenger car part in them, without a needless pound of weight. One used on trial soon proves its worth, and around it the fleet of Stewarts is built up. Stewarts are at work today in 800 American cities, on thousands of farms, in 39 foreign countries. Factory capacity has been doubled this year and deliveries are promptly made.

STEWART MOTOR CORPORATION
BUFFALO, N. Y.

2-Ton

2½-Ton

3½-Ton

Stewart Trucks have won—By costing less to run

Stewart
MOTOR TRUCKS

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POWER WAGON

Number 193 CHICAGO, DECEMBER, 1920 Price 50 Cents

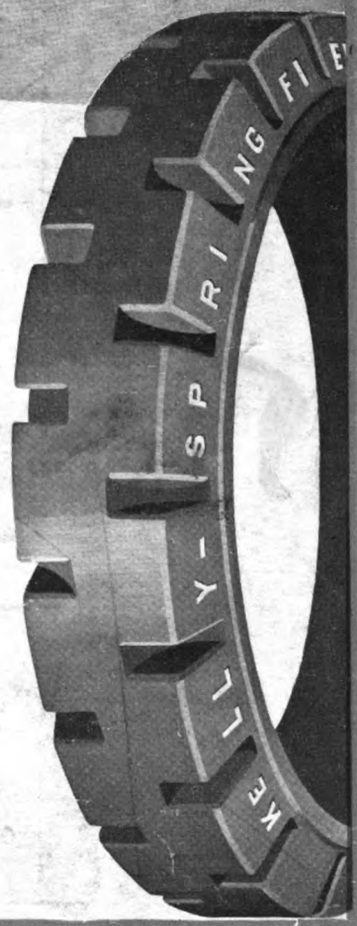
JOHN C

Caterpillar Tires Save Truck Depreciation

Depreciation is one of the biggest items of truck cost.

Big firms who own large fleets of trucks have done a great deal of experimenting to reduce this item of expense.

That so many of these firms have adopted Kelly-Springfield Caterpillar tires is one of the best testimonials of their truck-saving qualities that Caterpillars could have.



Kelly-Springfield Tire Co.
GENERAL SALES DEPARTMENT
1710 Broadway New York

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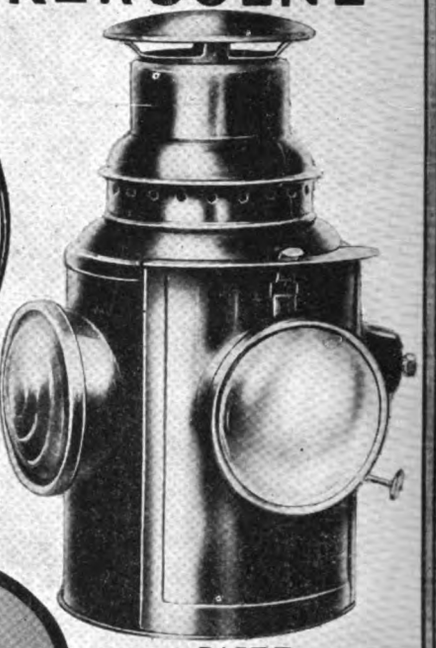
THEY BURN KEROSENE

DIETZ CONVOY TAIL LAMP

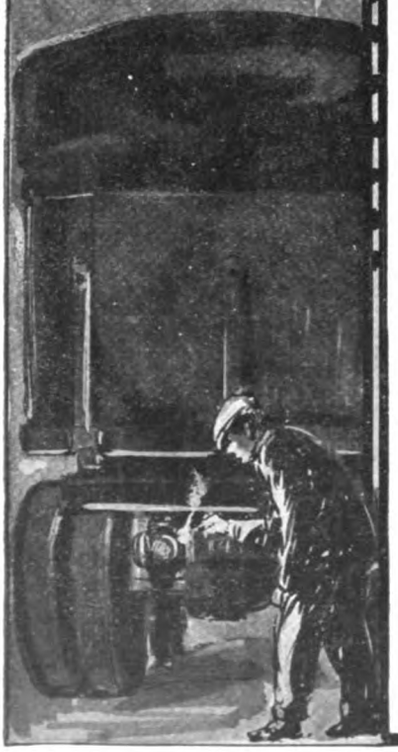
DIETZ ROYAL TAIL LAMP



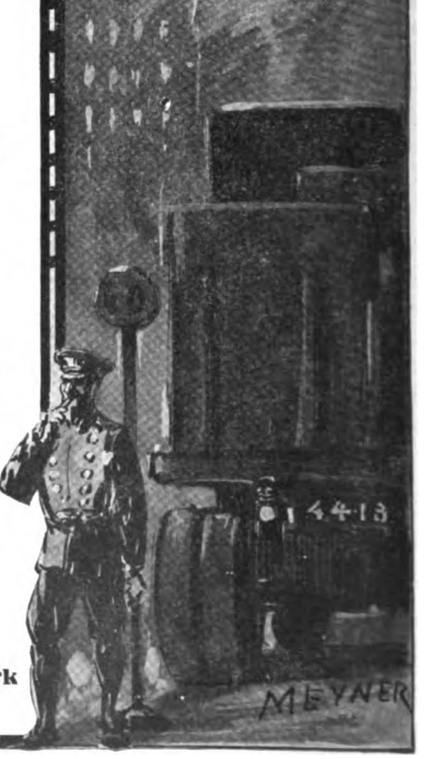
DIETZ MONITOR TAIL LAMP

DIETZ LAMPS

LAMPS THAT ONCE LIT STAY LIT



LAMPS THAT COMPLY WITH THE LAW



DIETZ BIG 3 TAIL LAMPS

(For Kerosene)

Different in Construction and Candle Power—Alike in Reliability on the Road

ROYAL TAIL LAMP

Cold Rolled Steel Construction. "Cold Blast" Combustion. 9¾ Inches High. 12 C. Power. White Lens 4⅝ Inches. Ruby Lens 3 Inches. Black Enamel Finish. Used with either Dietz "Champion" or "Royal" Side Lamps.

"MONITOR" TAIL LAMP

Cold Rolled Steel Construction. 9¾ Inches High. 8 C. Power. White Lens 3 Inches. Ruby Lens 3 Inches. Black Enamel Finish. Used with either Dietz "Ironclad" or "Monitor" Side Lamps.

"CONVOY" TAIL LAMP

Cold Rolled Steel Construction. 8¾ Inches High. 7 C. Power. White Lens 3½ Inches. Ruby Lens 3½ Inches. Black Enamel Finish. Used with either Dietz "Convoy" Dash or "Convoy" Side Lamps.

Our New Catalog of Dietz Kerosene Motor Lamps is Just off the Press. Send for a Copy

R. E. DIETZ COMPANY

60 Laight Street *Founded 1840* **New York**

JAMES BARNES, Sales Manager Motor Truck Lamp Dept., Carter Building, Rochester, N. Y.

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DEALERS

A TRIPLE REVOLUTION *in truck merchandising*

1

One-Model-Standardization

2

One-Year-Guarantee

3

Radically new service-basis between maker and dealer

THE THOMART MOTOR COMPANY

OFFICES AKRON, OHIO — FACTORY KENT, OHIO

Motor truck making and selling has passed the frantic, hit-or-miss experimental stage. It is time—and high time—for the trade to settle down to the solid bed-rock of service-to-the-user. The Akron-Multi-Truck dealer franchise alone solves the critical problems faced by the trade.

AKRON Multi-Truck

THE THOMART MOTOR CO. AKRON. OHIO

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"NORMA"

PRECISION BALL BEARINGS

(PATENTED)

A DOMINANT position in any field may be attained by salesmanship plus quality. But to maintain that position, quality must fight alone. For a decade past, "NORMA" Bearings have been standard in the high-grade magnetos and lighting generators identified with cars, trucks, tractors and power boats of the better class. Their dominance has not been undisputed — but their unvarying quality has maintained it.

See that your electrical apparatus is "NORMA" equipped.

THE NORMA COMPANY OF AMERICA

Anable Avenue
Long Island City
New York

Ball, Roller, Thrust and Combination Bearings

POWER WAGON

An exponent of the most enlightened thought and practice of the motor truck industry.

Published monthly by

THE POWER WAGON PUBLISHING COMPANY

544 Lake Shore Drive, Chicago, U. S. A.

Entered as second-class matter December 2, 1907, at the post office at Chicago, Illinois, under the Act of Congress of March 3, 1879.

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VOL. XXV. DECEMBER, 1920. No. 193.

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Big Tank for Milk Truck Saves 105 Cans . 71

THE POWER WAGON PUBLISHING COMPANY

WALTER WARDROP, *President and General Manager*
STANLEY A. PHILLIPS, *Vice-President and Editor*

Executive and Editorial Offices, 544 Lake Shore Drive, Chicago.

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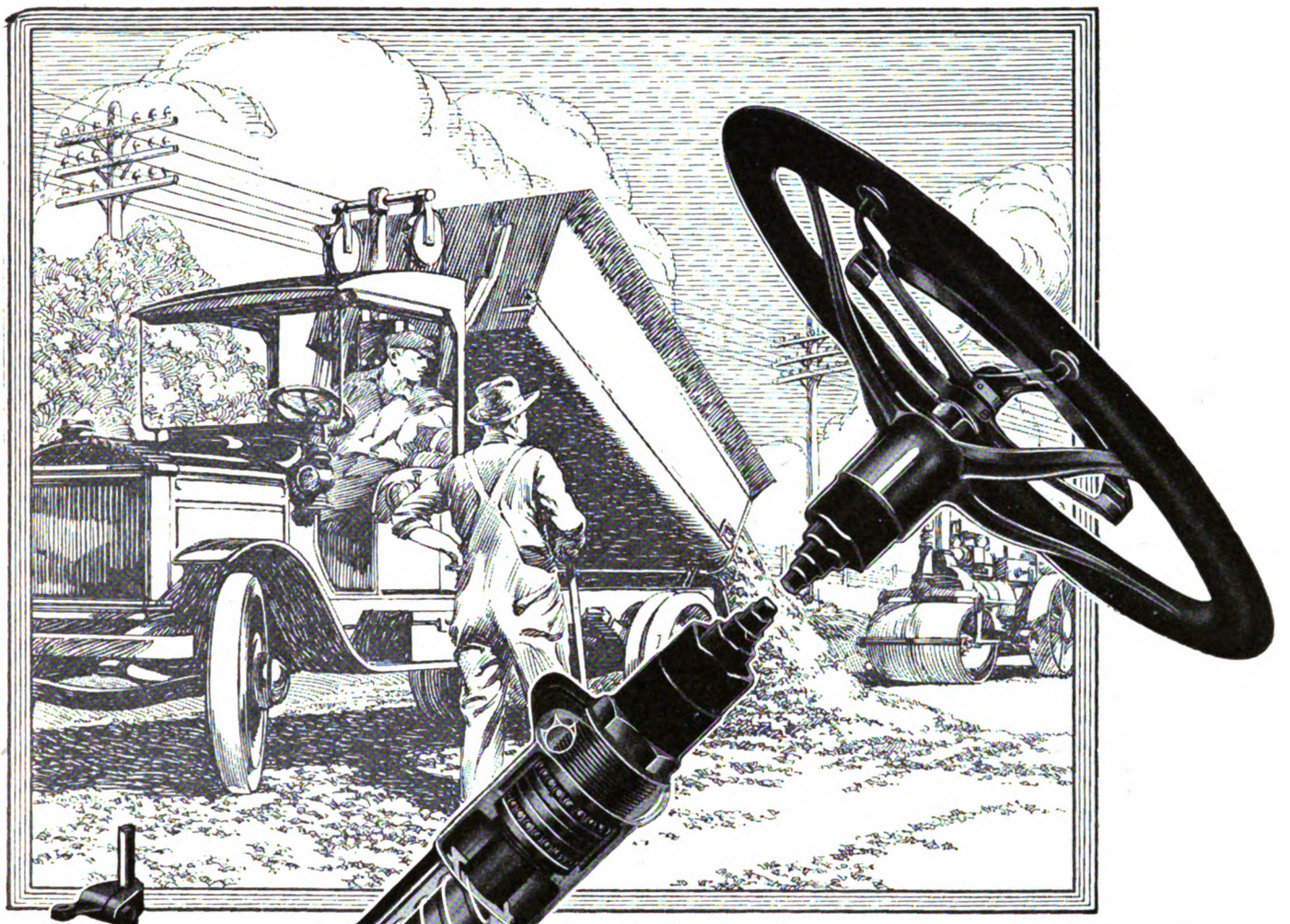

Building It's Own Road Bed
— to Haul America's Freight

The transportation problem of America will eventually be worked out—not on steel rails only, but on hard pike roads; not with engines and box cars only, but with motor trucks and trailers. This means more roads—better roads. The motor truck is today helping to build better roads that it may use them to the benefit of the community.

Ross Steering Gears are playing an important part in this work. The exclusive screw and nut design provides an enormous bearing surface. This bearing surface, in turn, means greater efficiency, greater safety and reliability, and easier steering—both in the motor trucks that are employed in building the road-bed and in those which later will haul freight and express over it. Ross Gears are now standard equipment on 418 different truck models from 165 different manufacturers.

Further Information Furnished on Request

ROSS GEAR & TOOL COMPANY

780 Heath Street - Lafayette, Indiana, U. S. A.

ROSS STEERING GEARS

THE STEERING GEARS THAT PREDOMINATE ON MOTOR TRUCKS

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Sept. 30, 1920 PRINTERS' INK 47
A Fleet of Trucks To Deliver Your Message
¶ Pictured above is the fleet of motor trucks which deliver the Sunpapers to the authorized Sun Carriers, who, in turn, deliver them into the homes of Baltimore.
¶ Baltimoreans appreciate this fast service. They rely on the Sunpapers to be first with the world's latest news, and the Sunpapers by living up to their expectations, receive their full confidence.
¶ So your message in the Sunpapers is delivered into the worthwhile homes where it is read and believed.
¶ Ask our Service Department for data on the home delivered circulation of the Sunpapers and further evidence that
Everything In Baltimore Revolves Around THE SUN
Morning Evening Sunday
JOHN B. WOODWARD Times Bldg., New York
GUY S. OSBORN Tribune Bldg., Chicago
Baltimoreans Don't Say "Newspaper" —They Say "Sunpaper"

A Service Worth Talking About

WHEN it comes to news, the public must be served promptly. To make its own service more dependable, this big newspaper puts its delivery problem up to Clydesdale dependability. Then Clydesdales deliver The Sun on time.

THE CLYDESDALE MOTOR TRUCK COMPANY
CLYDE, OHIO

CLYDESDALE MOTOR TRUCKS

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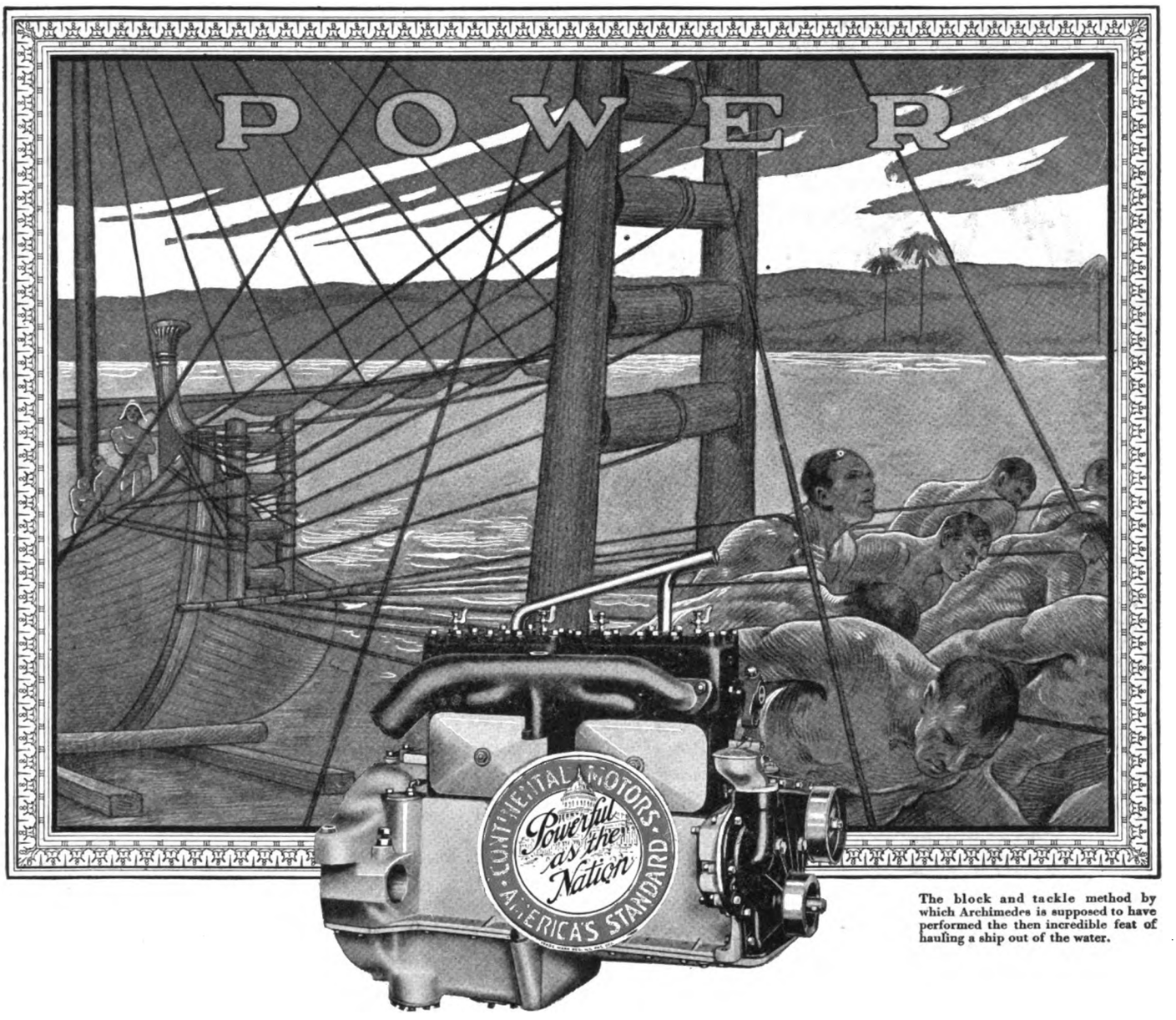

The block and tackle method by which Archimedes is supposed to have performed the then incredible feat of hauling a ship out of the water.

A consideration of the vast difference between the source of POWER of yesterday and the main springs of POWER that we tap today suggests the path that the motor manufacturer must follow. ¶For the importance to all mankind of an efficient means of creating POWER is so manifest that it becomes the motor producer's OBLIGATION to strive constantly for higher and still higher standards of performance. That is the policy that always has governed the Continental organization. It is the substance behind the curtain of good will that the world has accorded the Continental Red Seal.

CONTINENTAL MOTORS CORPORATION

Offices: Detroit, U. S. A. **Factories: Detroit and Muskegon**

Continental Motors

Largest Exclusive Motor Manufacturers in the World

Please mention "Power Wagon" when writing to advertisers.

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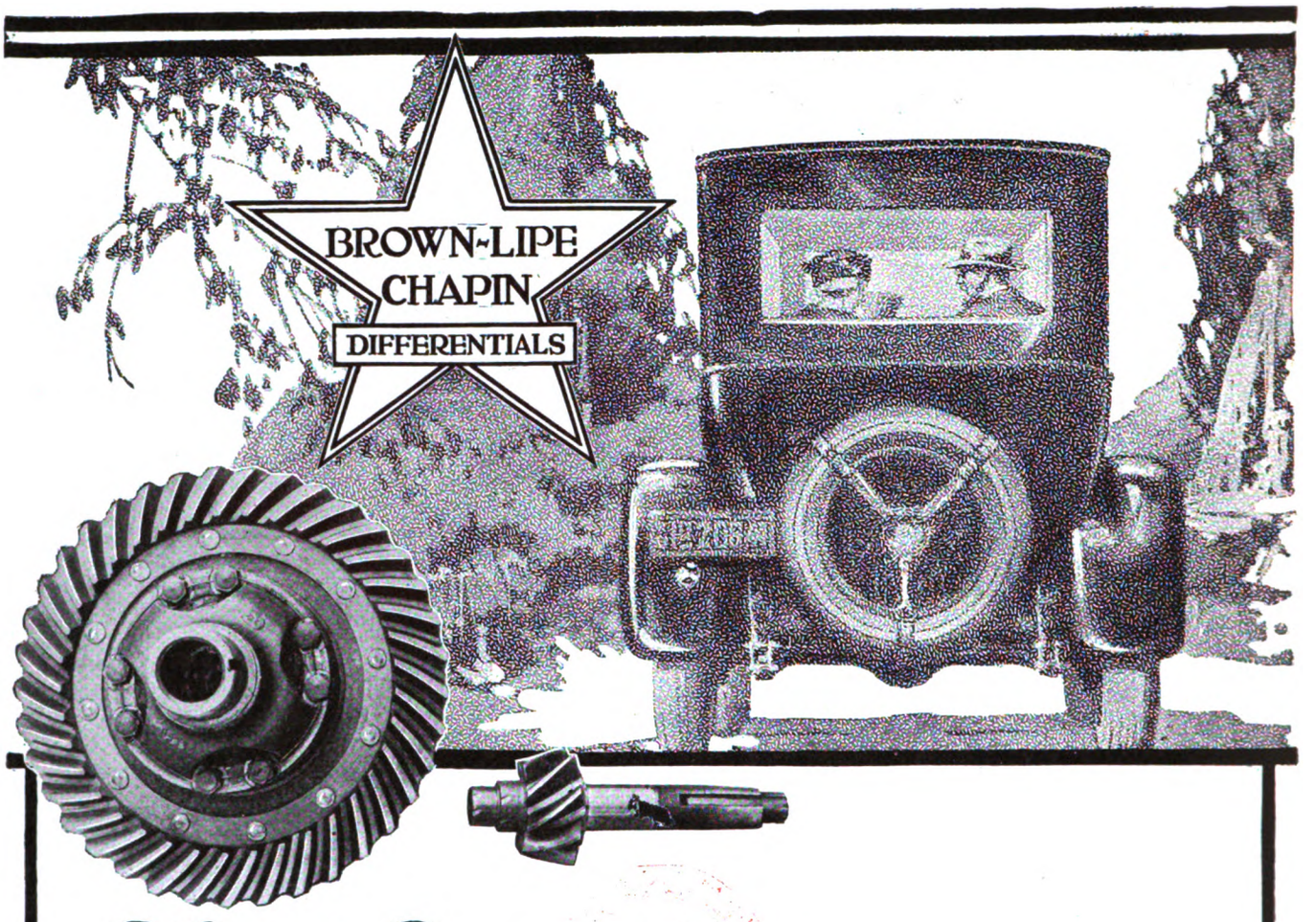

Silent Operation— An Absolute Essential—

THE owner of to-day's car demands a freedom from noise and smoothness of operation that the manufacturers of yesterday never deemed possible.

Improvements originated and exercised in Brown-Lipe products have materially assisted in making it possible for the car manufacturer to meet these demands.

Brown-Lipe organizations are ceaselessly working to bring automotive development to a yet higher plane.

BROWN-LIPE GEAR
TRANSMISSIONS

BROWN-LIPE GEAR CO.
TRANSMISSIONS

BROWN-LIPE-CHAPIN CO.
DIFFERENTIALS

Both at SYRACUSE, N. Y.

No. 18 of 40 Reasons for Superiority

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New 1921 Rainier Models

BIGGER and more powerful than all previous models are these new Rainier Trucks. In New York City, where they were first introduced, results have been unusually gratifying. Truck buyers have acclaimed them unreservedly the best values on the market. All the changes which were made in the Rainier line have been in the direction of increased power, greater carrying capacity, and greater all-around value to the buyer. On the other hand there has been no increase in prices to offset the additional advantages.

Compare these specifications with any other trucks of equal rating:

Specifications in Brief

The ¾-Ton Rainier remains substantially the same, except that as standard equipment it has 35x5 cord tires all around. This is one of the very few worm-driven trucks on the market in the ¾-ton size. Construction includes Continental Motor, Brown-Lipe clutch and transmission, Timken rear axle.

1-Ton Rainier. Continental Motor. Brown-Lipe clutch and transmission. Wheelbase, 133 inches. Tires, 34x4 rear, 34x3 front, solid. Frame 5 inches deep. Loading space 114 inches behind driver's seat. Heavier steering gear. New style pedals and control. Larger radiator.

1½-Ton Rainier. Continental Motor, 3¾x5. Brown-Lipe clutch and transmission, Model 30. Wheelbase, 147 inches. Tires 34x5 rear, 34x3½ front. Frame, 6 inches deep. Loading space, 126 inches behind driver's seat. Ross steering gear. Heavier propeller shaft with three universal joints. Other improvements.

2-Ton Rainier. Based on former model, except that Continental Motor is increased in size to 4⅛x5¼. Brown-Lipe (Model 35) transmission. Sheldon rear axle. Increased loading space. Stronger steering gear (Ross).

2½-Ton Rainier (Ready January 1). Continental Motor 4⅛x5¼. Brown-Lipe transmission, located amidships. Ross steering gear. This chassis is made in two sizes, 156 and 170-inch wheelbase. Tires, 34x7 rear, 34x5 front.

3½-Ton Rainier. Continental Motor 4½x6. Brown-Lipe clutch and transmission (Model 60), located amidships. Four speeds forward, one reverse. Timken rear axle. Frame 8 inches deep, Ross steering gear. Spicer joints. Tires, 36x5 dual rear, 36x5 single front. This 3½-ton model is one of the sturdiest and most satisfactory trucks on the market.

Rainier prices will stand the same favorable comparison as Rainier specifications. Furthermore, Rainier discounts are large enough to enable the dealer to earn a lot of money during 1921.

If you are progressive—if you are preparing for a prosperous 1921, sign up to sell Rainier trucks. Correspondence invited with responsible dealers.

See the Rainier Exhibit at the New York Truck Show, January 3d to 8th, 1921

RAINIER MOTOR CORPORATION
SALES DEPARTMENT
225-227 W. 58th Street NEW YORK, N. Y.

FACTORY
FLUSHING, L. I.

Rainier
Trade Mark Reg.
WORM DRIVE TRUCKS

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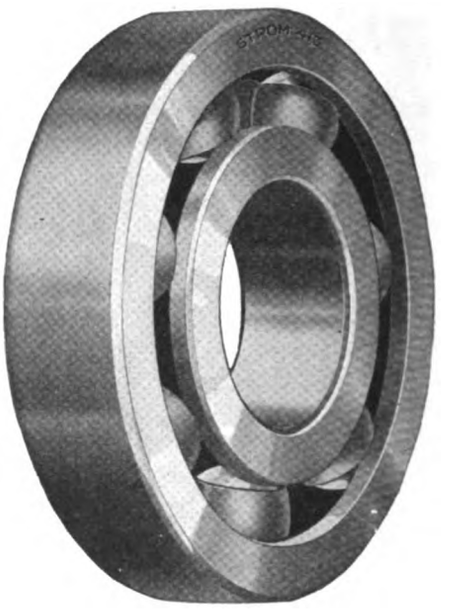
Strom Bearings Increase Power

The use of Strom bearings in passenger cars, trucks and tractors reduces friction to a minimum, thus increasing the power of the motor.

With less resistance to overcome in the driving parts, more of the power gets to the wheels and less gasoline is used.

Our modern and approved methods of heat treating give maximum strength to the high quality steel used in their manufacture.

There is a Strom bearing for every application. Our staff of experts is at your service to help solve any bearing problem.



Radial bearings made in a wide range of sizes, for light, medium and heavy duty.

Angular contact bearings especially designed to support combinations of radial and heavy end thrust loads.

Thrust bearings made in all types and sizes with flat and grooved races.

U. S. BALL BEARING MFG. COMPANY

(Conrad Patent Licensee)

4541 Palmer St., Chicago, Ill.

Strom BEARINGS

(46-C)

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International Motor Trucks

MOTOR trucks like that pictured on this page are known in every industry as thoroughly successful conveyors of loads. The distinctive hood indicates that this is the **International Motor Truck.** No truck dealer and no man with transportation problems does himself justice if he fails to seriously consider International. Address all inquiries to the Chicago office.

Motor Truck Department

International Harvester Company

of America
(Incorporated)

Chicago U S A

Branch Houses, Distributors and Dealers Everywhere

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THE SATURDAY EVENING POST
Here is the Real Test
When the loaded truck is on a sloping road and the wheels are skidding, then most of the weight is thrown to one side.
This is the supreme test of axle strength. The side-strain brings pressure to bear on a part of the axle about five times greater than the normal down-pressure of the load.
Sheldon Axles are built to resist these side-strains. The bearings are widely spread—the principle upon which locomotive and freight car axles are built—and the wheels are fixed rigidly to the revolving axles.
Sheldon Axles are made for all kinds of work for any truck from one-half to five ton capacity.
When you buy a truck look for the torpedo-shaped hub caps and double anchor trade mark.
SHELDON AXLE AND SPRING COMPANY, Wilkes-Barre, Pa.
Manufacturers of Sheldon Axles for Motor Trucks and Sheldon Springs for Trucks and Automobiles
Sheldon Axle
FOR MOTOR TRUCKS
IT is natural for truck buyers to look for the axle that they've learned the most about. And you know what axle that is.

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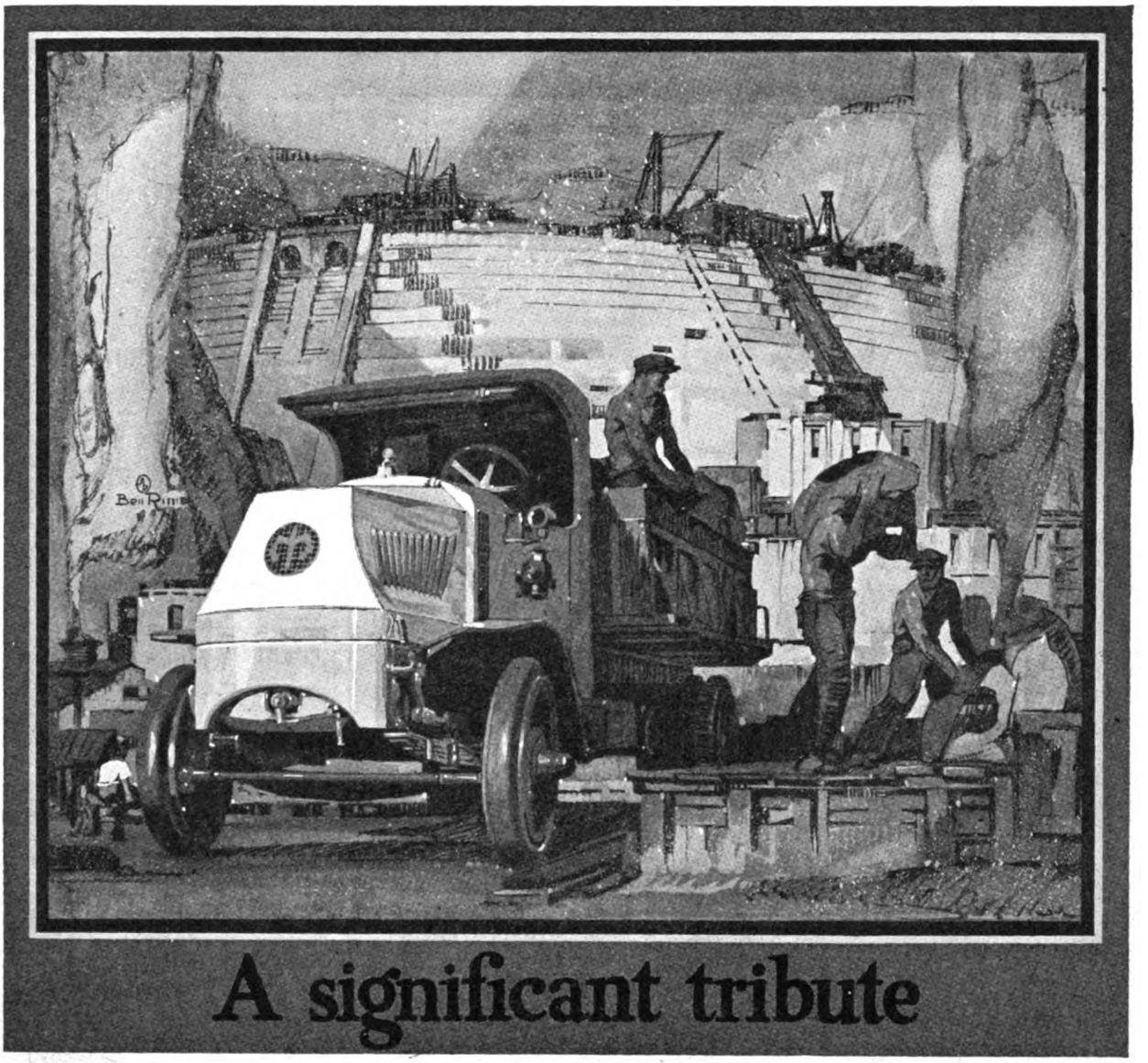

A significant tribute

"We expect to finish the big dam this week. Before I leave I want to pay my respects to the Bull Dog Mack. It is the most wonderful truck I have ever seen in my extensive experience with all kinds of motor truck equipment."—*From one letter of hundreds we should like you to read.*

THE Mack is distinctively an *engineered* truck. Its supremacy rests upon three essential elements of truck efficiency—dependability, economy and endurance. It was designed to do big things in a big way—easily. That it does this is vouched for by the enthusiastic approval of Mack owners everywhere. Distinctive Mack engineering features, combined with 18 basic Mack patents, have developed the motor truck the world is talking about.

Capacities 1½ to 7½ tons. Tractors to 15 tons.

Our latest catalogues, Nos. 13 and 39, contain detailed descriptions of the many exclusive features that have made Mack supremacy possible, together with the complete specifications of every model. Send for them today.

INTERNATIONAL MOTOR COMPANY, NEW YORK

Mack TRUCKS

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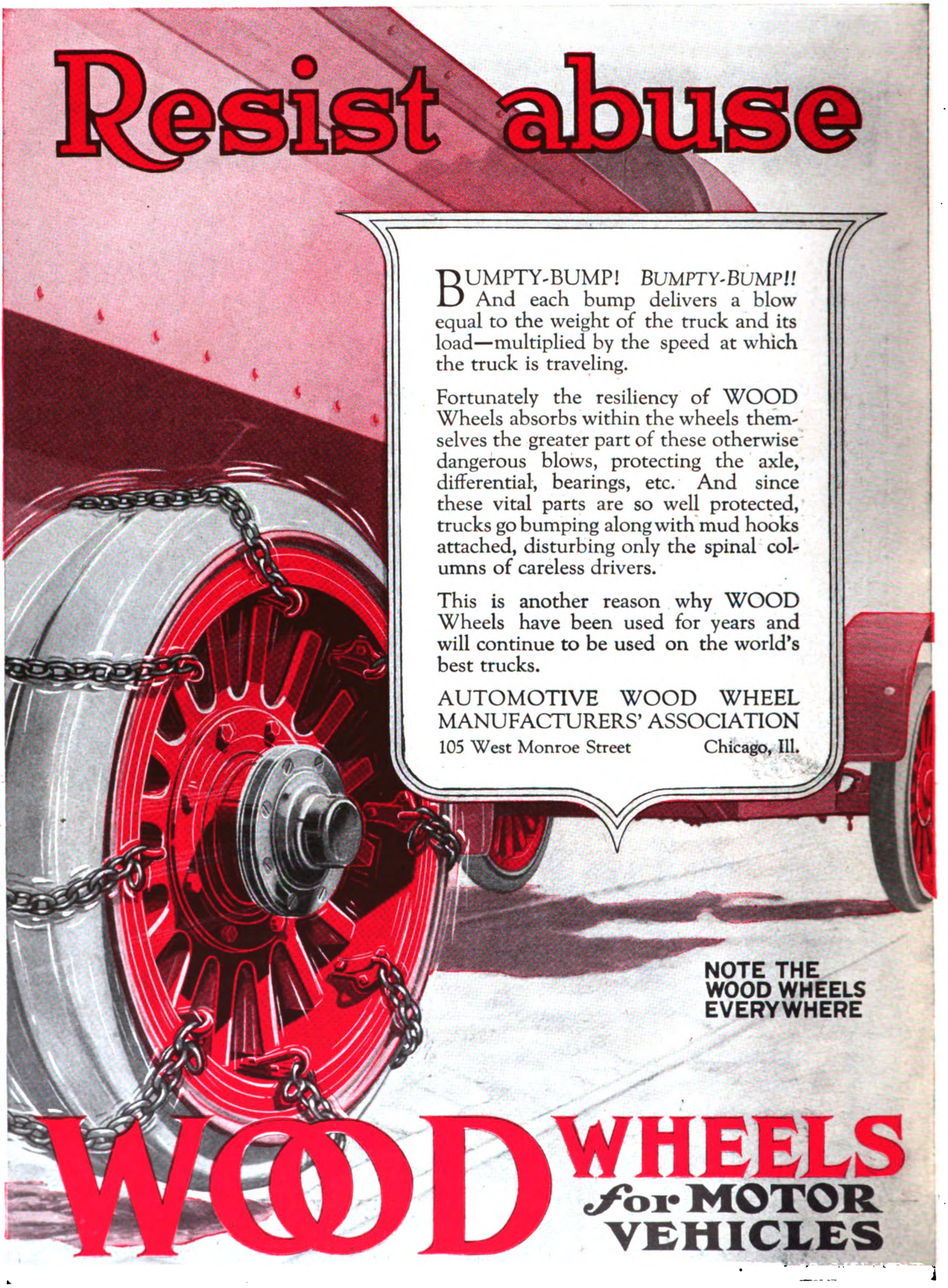
Resist abuse

BUMPTY-BUMP! *BUMPTY-BUMP!!* And each bump delivers a blow equal to the weight of the truck and its load—multiplied by the speed at which the truck is traveling.

Fortunately the resiliency of WOOD Wheels absorbs within the wheels themselves the greater part of these otherwise dangerous blows, protecting the axle, differential, bearings, etc. And since these vital parts are so well protected, trucks go bumping along with mud hooks attached, disturbing only the spinal columns of careless drivers.

This is another reason why WOOD Wheels have been used for years and will continue to be used on the world's best trucks.

AUTOMOTIVE WOOD WHEEL MANUFACTURERS' ASSOCIATION
105 West Monroe Street Chicago, Ill.



NOTE THE WOOD WHEELS EVERYWHERE

WOOD WHEELS for MOTOR VEHICLES

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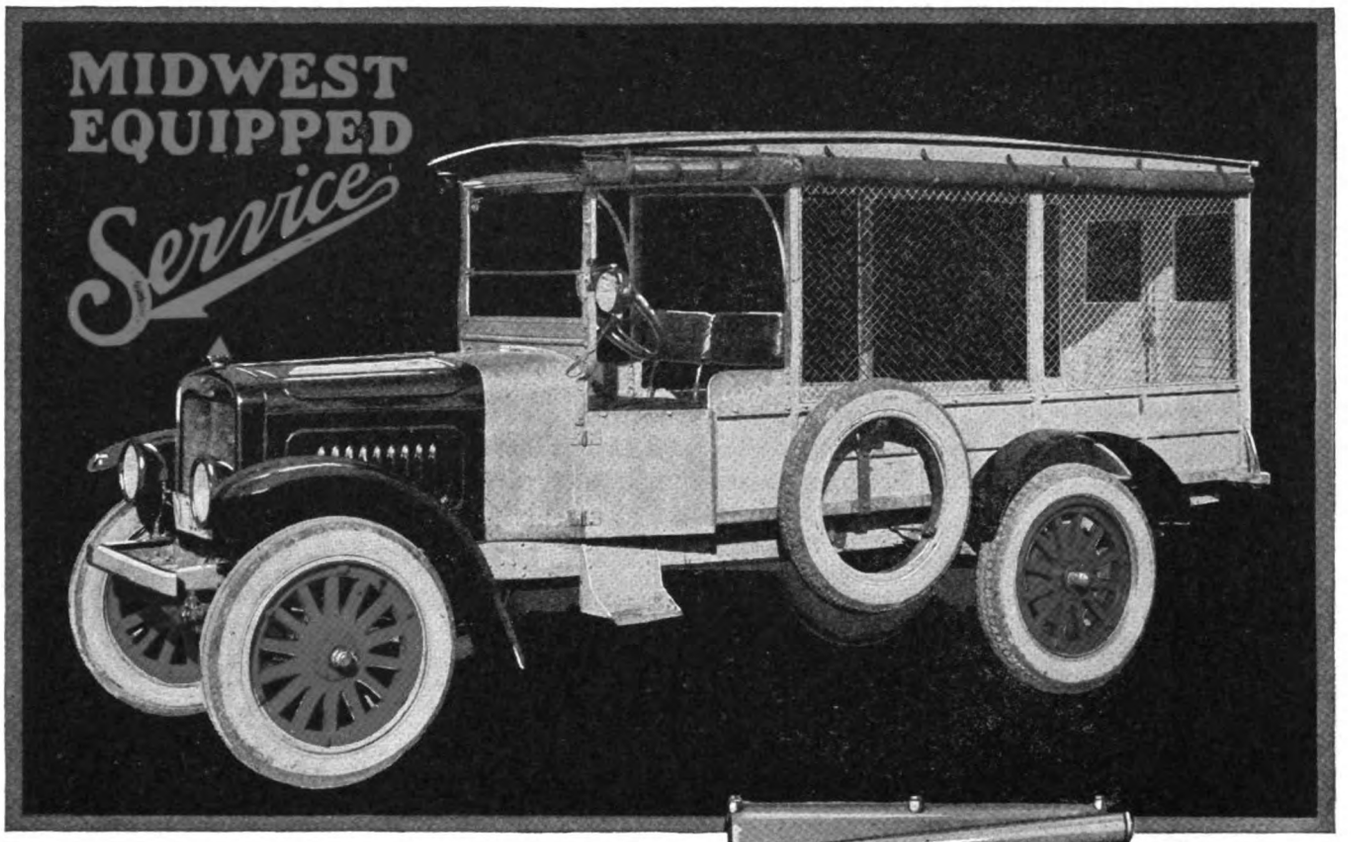


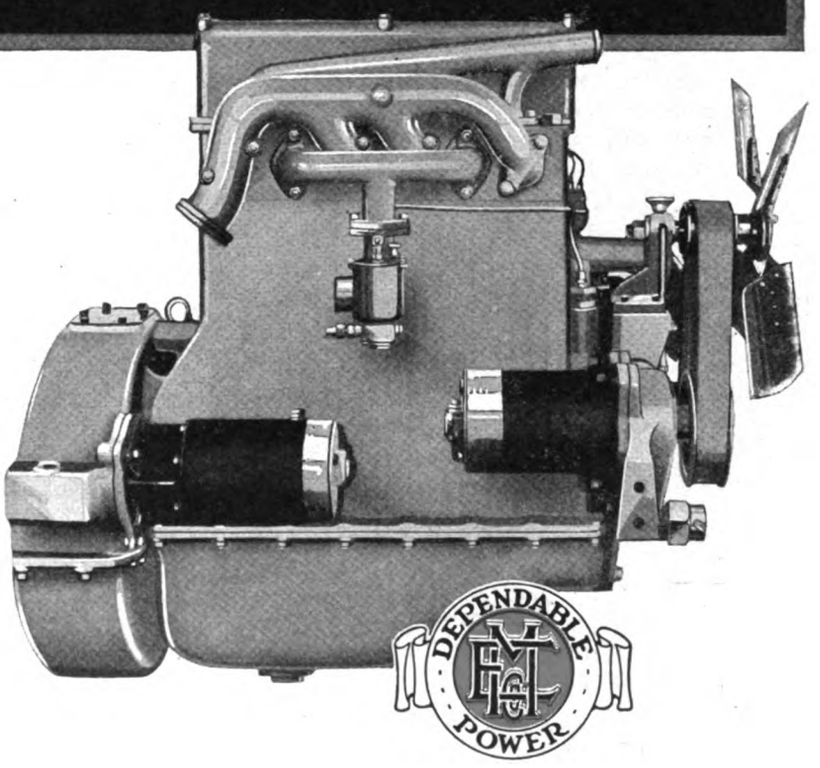
We illustrate above the new Service three-quarter to one ton pneumatic equipped truck. This is equipped with a Midwest 3⅝x5" heavy duty, high speed engine.

The Service Motor Truck Company adopted this engine only after the Midwest product was put through the most gruelling tests imaginable—tests extending over a long period of time.

These tests included comparisons, from a performance standpoint, with other engines available, and in some cases with engines of greater displacement.

Next month we will show you in detail the product of other manufacturers who have adopted the Midwest engine. These manufacturers have **proved how *little* bore and stroke has to do with the performance which your customers expect.**

Midwest Engine Company
Indianapolis, U. S. A.



A full line of Midwest Truck and Tractor Engines will be exhibited at both the New York and Chicago National Automobile Shows in January

MIDWEST
TRUCK and TRACTOR ENGINE

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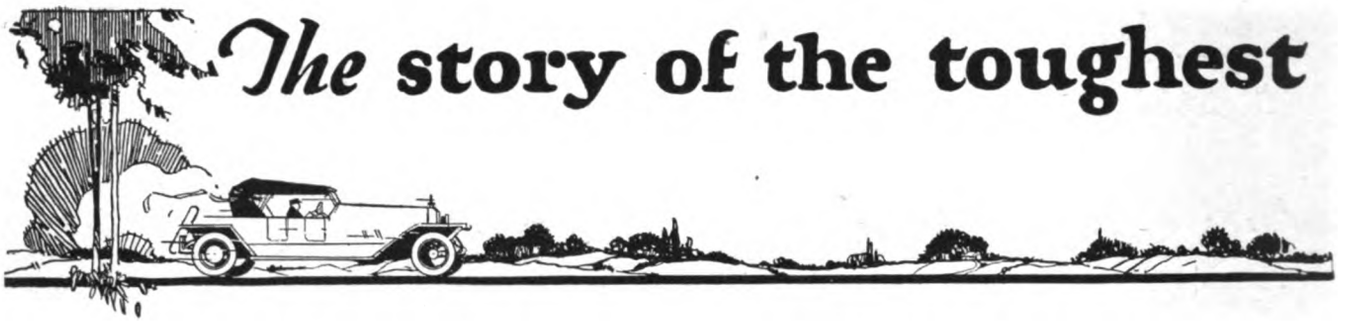
The story of the toughest



THE DICTIONARY, in defining "tough," might just as well have said "Johns-Manville Non-Burn Asbestos Brake Lining." It is woven rock!—asbestos rock blasted from the mine and woven with strong brass or copper wire into the toughest fabric in the world.

The quality of Non-Burn Brake Lining begins at the largest asbestos mines in the world, owned and operated by Johns-Manville. This insures a steady supply of the most suitable fibres, without the necessity of depending on the open asbestos market.

This is a piece of Asbestos Rock as it comes from the mine. Note the long silken fibres. That is what distinguishes the Asbestos that gets into Non-Burn Brake Lining.

Selecting the best Asbestos

After the Asbestos rock is blasted from the mine it is sent away to the Johns-Manville mills to be separated and graded.

Yet from these tons of rock only a small percentage is selected in the grading process as being good enough for Non-Burn Brake Lining.

Spinning this rock on looms

These selected fibres are then shipped to the Johns-Manville factory to be spun and woven into brake lining.

In the factory specially designed machines spin the fibres of asbestos rock into a strong, pliant yarn.

Sand and oil are great enemies to brake lining. Johns-Manville Non-Burn Brake Lining however, is protected from such things by a thorough and special impregnation.

Weaving the rock

This rock yarn is now woven with brass or copper wire into a fabric so strong and closely woven that it already seems suitable for brake lining. But before this fabric is ready for use it is impregnated with chemicals that increase its naturally high resistance to the action of oil, grease, water and gasoline. This process also materially increases and preserves its frictional qualities.

JOHNS-MANVILLE SERVICE COVERS THIS CONTINENT

Through—

Asbestos

and its allied products

JOHNS-MANVILLE
Serves in Conservation

Heat Insulations, High Temperature Cements, Asbestos Roofings, Packings, Brake Linings, Fire Prevention Products

JOHNS AUTOMOTIVE

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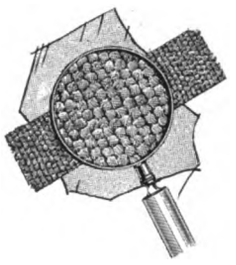
stuff in the world!



See how heavy and dense the weave is—wear resistance and gripping power are built right into it.

How it is sold

Non-Burn is distributed by a group of hand-picked firms—there are none better in the automotive field. And you will find the one nearest you ready and very willing to serve you and co-operate with you.

Non-Burn Brake Lining is the only lining, mined, spun, woven and marketed by the same firm from start to finish. Johns-Manville, and Johns-Manville alone stands behind every inch of it.

Years of experience in back of Non-Burn Brake Lining

There is more real experience in back of Non-Burn Brake Lining than any other. Long before the invention of the automobile, Johns-Manville were lining brakes for huge industrial machinery. On these machines brake slippage or failure meant disaster, loss of property or even life.

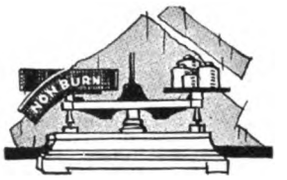
Our experience of these many years shows itself in the dependability of Non-Burn Brake Lining.

It is literally true that tons of Asbestos rock are sorted to obtain a few pounds of the special long fibre asbestos suitable for Johns-Manville Non-Burn Asbestos Brake Lining.

Any brake will heat up under sustained heavy pressure. But if the proper amount of asbestos is in it and the right kind, the oil and grease should smoke off leaving the lining uncharred and as safe as ever.

Selling Non-Burn

Non-Burn Asbestos Brake Lining is most readily saleable because of the willing consumer acceptance Johns-Manville national advertising has created for it.



If you weigh a piece of Johns-Manville Non-Burn you will find that it is extremely heavy. Reason?—close, heavy weave—best asbestos rock—and thorough impregnation.

Your profits are protected by a sales policy that is fairness itself. Let one of our Distributors tell you about it. Or write to any Johns-Manville branch.

JOHNS - MANVILLE
Incorporated
Madison Ave. at 41st St., New York City
10 Factories—Branches in 64 Large Cities
For Canada
CANADIAN JOHNS-MANVILLE CO., Ltd
Toronto

MANVILLE EQUIPMENT

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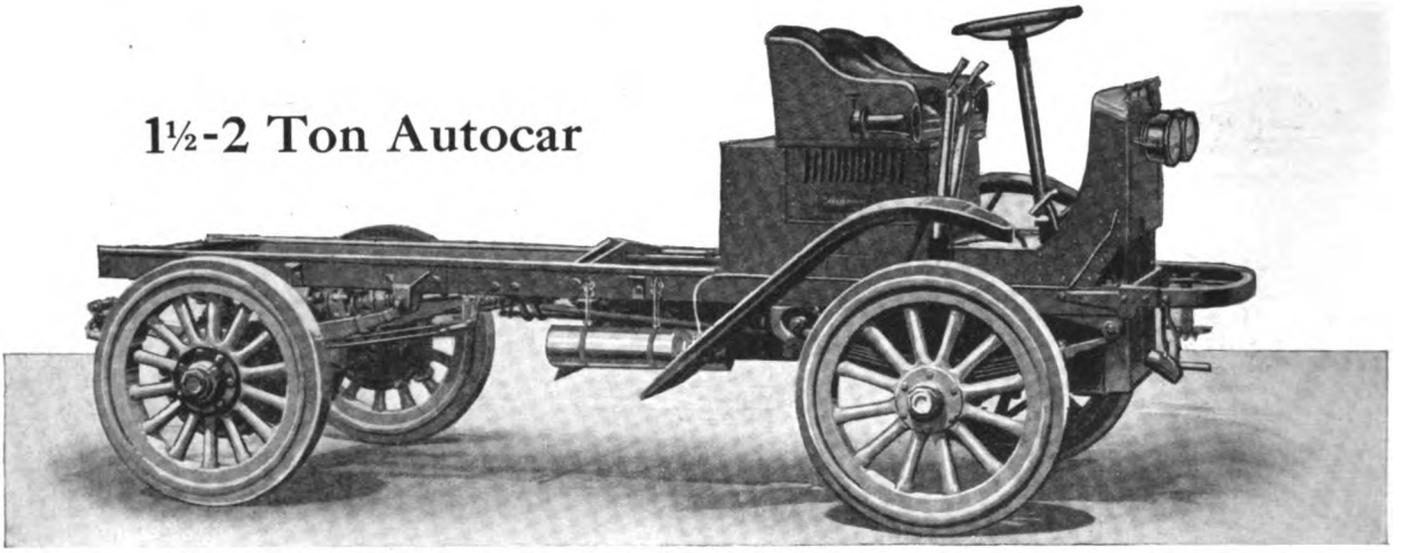
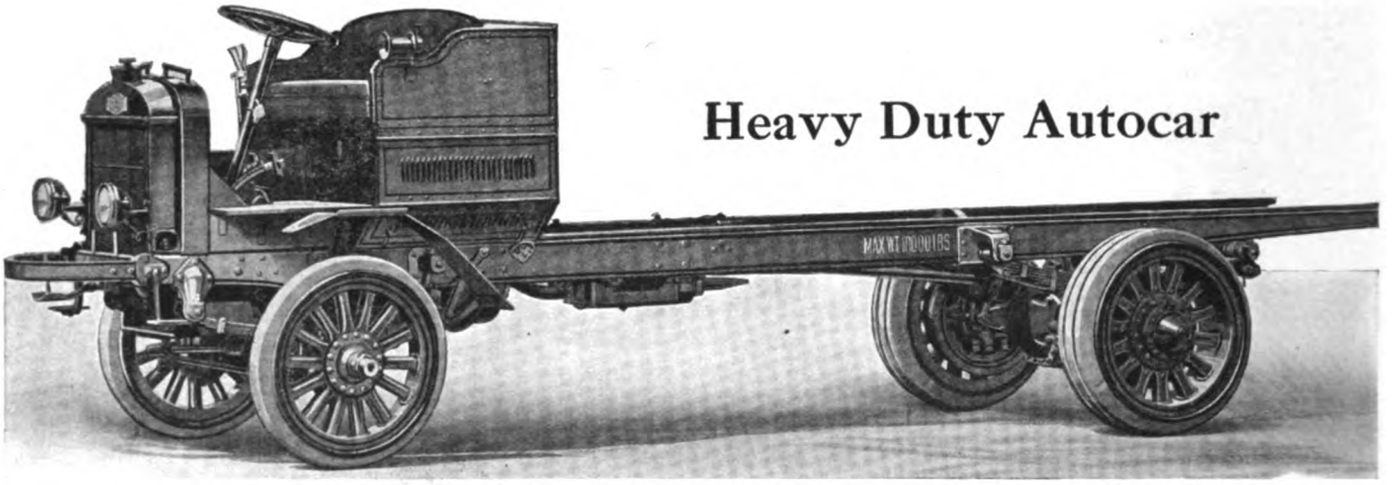
1921 Models and Prices



Type XXI-F, 97-inch Wheelbase $2300
Type XXI-G, 120-inch Wheelbase $2400
F. O. B. Factory, Ardmore



Type XXVI-Y, 120-inch Wheelbase. $4350
Type XXVI-B, 156-inch Wheelbase. $4500
F. O. B. Factory, Ardmore

THE AUTOCAR COMPANY, Ardmore, Pa., Established 1897

The Autocar Sales and Service Company

New York	Boston	Philadelphia	Pittsburgh	Chicago	San Francisco
Brooklyn	Providence	Camden	Baltimore	St. Louis	Sacramento
Bronx	Worcester	Allentown	Washington	Dallas	Oakland
Newark	New Haven	Wilmington	Richmond	Los Angeles	Stockton
Schenectady	Springfield	Atlantic City	Atlanta	San Diego	Fresno
Syracuse					San José

Represented by these Factory Branches with Dealers in other cities

Autocar

October 19, 1920

Wherever there's a road

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POWER WAGON

Vol. XXV. CHICAGO, DECEMBER, 1920. No. 193.

Hare's Motors Takes Over Kelly-Springfield Truck

STEP COMPLETES TRUCK AND CAR LINE

Hare's Motors, Inc., has announced that the Kelly-Springfield Motor Truck Company and its plant at Springfield, Ohio, will hereafter be operated by Hare's Motors, the operating organization for the Locomobile, Mercer and Simplex companies. Special significance attaches to this announcement as it means the fulfillment of the promise made last March by Mr. Hare, when Hare's Motors was organized, that a full line of motor trucks, equal in quality and reputation to the original Hare's Motors products, would eventually be added.

Coincident with Mr. Hare's announcement comes the word that the board of directors of the Kelly-Springfield Motor Truck Company has elected the following officers: President, Emlen S. Hare; vice-presidents, Henry Lansdale, H. D. Church and O. E. Hunt; secretary and treasurer, F. R. Hickman. These men now hold like positions in Hare's Motors, the Locomobile Company and the Mercer Motors Company. James L. Geddes, who has been president of the Kelly-Springfield company, was elected chairman of the board.

"The addition of the Kelly-Springfield truck to the Hare's Motors line," said Mr. Hare, "is merely another step forward in our plans to give our distributers, and through them the public, a complete line of non-competitive passenger and freight transportation of the highest quality. Our

(Continued on next page.)

Republic Truck in Operation

The Republic Motor Truck Company has finished taking inventory and has resumed manufacture, temporarily suspended in September. It is turning out 100 trucks a month and selling nearly 200 a month, substantially reducing the number of finished trucks on hand.

On November 1 $500,000 of the company's $3,000,000 7 per cent. notes outstanding fell due. As of June 30, 1920, its balance sheet showed total current assets of $9,179,849 and current liabilities of $6,106,629, making net working capital of $3,073,220. Cash alone was in excess of $1,000,000 and inventories of $6,781,561 represented an increase of less than $1,500,000 over inventories on June 30, 1919.

Earnings for the last six months will show a falling off from net earnings of $1,741,618, before federal taxes, in the first half of the year. However, results for the full twelve months of 1920 should show net earnings before taxes in excess of $2,000,000, or approximately $20 a share on the common stock, after preferred dividends. This would be four times net profits of $4.95 a share, after taxes, reported in the previous year and nearly three times greater than net profits of $6.79 a share, after taxes, earned in the 1918 fiscal year.

Federal Running Full Time

The factory of the Federal Motor Truck Company at Detroit, Michigan, is operating on a full-time schedule according to an announcement made by M. L. Pulcher, vice-president and general manager of the company. Sufficient orders are on the books to warrant the assumption that there need be no fear of curtailment of production in the future and the company is making every preparation for an even greater output during the coming year. A new addition to the Federal plant, adding 60,000 square feet to the 300,000 square feet of space already available, has just been completed. It will house the final assembly and paint departments. Business conditions, according to Mr. Pulcher, are "rapidly getting better." The result of the election combined with the general feeling of optimism on the part of business and the realization of the present importance of the motor truck to industry is having a decidedly beneficial and strengthening effect upon the motor truck industry.

Fender Injunction Permanent

A final decision has been rendered in the Chicago motor truck fender suit. The decree, which was entered by Judge McGoorty of the Circuit Court, upholds the findings of the Master in Chancery on every contested point; and the temporary injunction, which up to the present time has protected the truck owner against the enforcement of this notorious ordinance, is made permanent. At least one of the rulings so confirmed by the court is most far-reaching in its effect upon the power of the city to Supreme Court, but if this is done it can hardly be presented prior to the February term.

Continental Motors Resumes

The Continental Motors Corporation of Muskegon, Michigan, after a shutdown of three weeks, has started to hire men.

Highway Transportation Show Plans Now Complete

WILL DISPLAY TRUCKS AND TRAILERS

New York City's 1921 Highway Transportation Show will be the most novel and spectacular exhibition that has ever been witnessed in the history of New York motor circles. The plan of the show, which will be held from January 3 to 8, inclusive, at the 12th Regiment Armory, 62nd Street and Columbus Avenue, embraces a program consisting of a series of special days; and each day will rival the other in making itself the day of the biggest event during the show. Monday, the third of January, is to be Opening Day; Tuesday, Army Day; Wednesday, Motor Accident Prevention Day; Thursday, Highway Transportation Day; Friday, Farmers' Day; Saturday, Motor Truck Association Day.

Altogether the Highway Transportation Show, which will be held under the auspices of the Motor Truck Association of America, Inc., is certain to be of great interest to the city of New York. The show

(Continued on next page.)

Tire Sales Show Increase

After a week of inactivity due to inventory taking, the Goodyear Tire & Rubber Company resumed operations November 1, on a five-day-a-week basis. The year is closed with the announcement that sales will aggregate more than $205,000,000, which is an increase of $38,000,000 over last year.

Sales of the large companies will show at the end of the year a normal increase over business of last year, it was reported by Miller Rubber Company and Firestone Tire & Rubber Company factory heads.

Firestone announces that sales this year will show normal increase, which places the total at between $105,000,000 and $108,000,000. The business of the company in 1918 was $75,000,000 and last year $91,000,000.

Miller sales during the first nine months of the present year were $27,440,743, as compared with total sales for the whole of the previous year of $27,116,588, according to official announcements. Sales for October have not been definitely computed, but men high in the organization stated that sales for the full twelve months of this year will show a total of not less than $31,000,000.

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September Oil Production Sets New Mark for Year

MEAN DAILY OUTPUT 1,261,500 BARRELS

Daily average crude oil production in the United States in the first nine months of 1920 was 1,204,204 barrels, or at the rate of 439,534,460 barrels a year. As the September output was at the rate of 1,261,500 barrels daily, or 57,296 barrels above the daily average for the nine months' period, it is estimated that the output this year will easily exceed 445,000,000 barrels.

This record output, which is 67,000,000 barrels, or 18 per cent. larger than the 1919 production of 378,000,000 barrels, is accounted for largely by the showing of the Midcontinent oil field, notably Oklahoma, Kansas and north Louisiana. In the first nine months of 1920 the output in the Oklahoma-Kansas division averaged 407,635 barrels daily, compared with 309,374 barrels daily in the same period of 1919, a gain of 98,261 barrels. The north Louisiana average in this 9-month period was 96,504 barrels daily, an increase of 61,962 barrels compared with 1919.

The following table shows the daily average of oil production in the various fields of the United States in September, and a comparison of the average for the first nine months of 1920 and 1919, with change, in barrels:

	Sept.,	First nine months.		
	1920.	1920.	1919.	Changes.
Appalachian	86,700	81,804	82,143	* 339
Lima-Indiana	9,100	8,358	9,740	* 1,382
Illinois	30,100	29,974	34,480	* 4,506
Midcontinent:				
Okla.-Kan.	423,767	407,635	309,374	†98,261
Cent. and No. Tex..	192,200	185,606	179,868	† 5,738
No. L'siana	86,566	96,504	34,542	†61,962
Gulf Coast.	74,833	67,172	56,967	†10,205
Rocky Mountain	53,967	46,746	37,630	† 9,116
California .	304,267	280,405	280,084	† 321
Total	1,261,500	1,204,204	1,024,828	†179,376

*Decrease. †Increase.

Although the north Louisiana output in September was at the rate of 86,566 barrels daily, against a daily average of 96,504 barrels for the nine months, this decline is more than offset by the increase in the daily rate for September in the Oklahoma-Texas, north Texas and Gulf Coast divisions, where the combined daily output is 30,387 barrels above the daily average for the first nine months of 1920.

Hare's Takes Over Kelly Truck

(Continued from preceding page.)

objective is to place Hare's Motors in a position to serve the public in each important center through a distributer who will be competent to advise them as to their transportation requirements and intelligently to supply the type of car or truck which best fits the particular conditions. Our success, just as much as that of our distributers, depends upon their establishment on a basis that will be profitable to them and satisfactory to the public. This method of business will, I believe, bring the respect and support of the public and also lower the cost of selling.

"To obtain manufacturing economy it is advisable to produce only one kind of product in each plant. We have, therefore, ceased manufacturing Riker trucks at the Bridgeport plant and will devote that factory entirely to the manufacture of Locomobiles. The next step was to build a truck factory and equip it with machinery, or, better yet, to take over some well-known truck manufacturer who had an efficient factory already equipped. And that is what has happened.

"Both Riker and Kelly-Springfield trucks are the successful development of the ideas of capable engineering staffs. The Riker is built only in two sizes, 3 and 4 tons, while the Kelly-Springfield sizes run from 1½ to 6½ tons."

The Kelly-Springfield is one of the oldest trucks on the market, the first model having been produced sixteen years ago. During the war the Kelly-Springfield plant was greatly enlarged and given over entirely to war contracts, its commercial business being temporarily abandoned. The plant to-day is one of the most completely equipped and best organized in the country.

Highway Transportation Show

(Continued from preceding page.)

committee states that it is the real desire of the Motor Truck Association that the general public, as well as motor truck users, attend the show; and the program of events for the six consecutive days is planned to be of interest to young and old, business man and farmer.

The basic reasons and purposes for holding this show are identical with those advocated by the Motor Truck Association of America:

(1) Further to demonstrate, both through discussion and display, the necessity and advantages of a national highway system, which will support the general and economic use of the motor truck.

(2) To educate motor truck users.

(3) Further to educate the general public in the economic advantages derived from the employment of the motor truck as a means of transport.

Included in the program is a series of contests offering valuable prizes to the winner. These contests will pertain particularly to the special days on which they will be conducted. As soon as detailed plans are completed rules and awards for these contests will be made public. The program also contemplates a series of educational addresses by many national and eminent authorities on the absorbing subjects of the day.

It is the plan of the committee that there will be a magnificent display depicting the evolution of transportation, starting from the time man first conceived the vehicle of transportation, and ending with the present day and the newest method of transportation now employed—the motor truck. It is probable that this display will also embrace all present methods of transportation, i. e., the railway, waterway, airway, and highway.

An innovation in the show is Motor Accident Prevention Day. Traffic control is now being studied by our larger cities, and particularly is this true in New York. The Motor Truck Association desires to cooperate with New York City in minimizing the number of accidents caused by careless drivers and a lack of knowledge on the part of the public of traffic regulations. The number of machines using the city streets is increasing so rapidly that at certain hours in the day they create a virtual blockade, which is almost beyond human ingenuity to control. The result is a slowing down of the very thing they are intended to speed up, viz., the transaction of business and the facility of commerce and traffic.

Atterbury, Bessemer, Brockway, Clinton, Federal, Gramm-Bernstein, Indiana, Transport, Vim and Ward La France trucks and Highway trailers will be exhibited, according to records of space already signed and paid for.

The personnel of the show committee includes A. M. Welch (Reo), chairman; J. A. Inness (Brockway); W. H. Moore (Garford); Paul Campbell (Indiana); R. S. Locke (Federal); W. Lawson (Nash), and E. A. Travis (Locomobile).

American War Trucks Pave Way for European Sales

VALUABLE GOOD WILL BEING CREATED

The thousands of American motor trucks which were dumped in Europe at the close of the war are serving at least one good cause for the American truck manufacturer, in the opinion of W. A. Olen, president and general manager of the Four Wheel Drive Auto Company, Clintonville, Wisconsin, who, with D. J. Rohrer and C. F. Folkman of the company's board of directors, has just returned from a two-month tour of Europe studying truck conditions. These trucks are popularizing American motor transportation in European countries and are paving the way for the entrance of an increasing number of trucks in the European field in the future, according to Mr. Olen.

"Virtually everywhere I visited I found these old war trucks," says Mr. Olen. "They have been put into shape again, and are now in the hands of consumers where they are doing great work and giving a satisfactory service that promises to reflect favorably on the future sale of motor transportation to these countries. They are proving a great advertising medium and are acquainting European buyers with the strength and durability of American trucks. The service they are giving in the hands of consumers is everywhere, as far as I could learn, most satisfactory, and the trucks are building up a bulwark of good will for future business.

"Among our distributers I found every one enthusiastic over prospects for a healthy business. That there is a large potential market in European countries not only for motor trucks, but a great range of other mechanical equipment as well, was obvious. In many instances we saw man-power doing work that in this country is done by machinery. Even the freight that is loaded aboard the steamer at New York by up-to-

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Packard Balance Sheet Shows Best Year in Firm's History

The Packard Motor Car Company for the fiscal year ended August 31, 1920, reports net profits, after charges and taxes, of $6,395,468, equivalent, after preferred dividends, to $4.51 a share earned on the $11,885,100 common stock ($10 par value). This compares with net profits of $5,433,634, or $41.15 a share, on the $11,840,930 common stock ($100 par value) in 1919.

Consolidated income account for the year compares as follows:

	1920.	1919.	1918.
Net profits after tax	$6,395,468	$5,433,634	$5,616,707
Dividends	2,511,441	2,099,244	1,270,388
Surplus	$3,884,027	$3,334,390	$4,346,319

The balance sheet as of August 31, 1920, compares as follows:

Assets.

	1920.	1919
Property investment	$21,988,430	$15,994,393
Cash in sinking fund for retirement of preferred stock	.....	270.000
Inventories	29,359,327	18,051,749
Accounts receivable	4,882,189	4,401,718
Deferred installment notes and bills receivable	1,352,728	338,162
Miscellaneous investments	207,535	173,978
Liberty bonds and U. S. certificates of indebtedness	.....	19,583,668
Liberty bonds purchased for employees, less amounts received	.....	313,158
Cash	4,314,810	3,409,248
Deferred charges	703,258	562,142
Total	$62,808,277	$63,098,216

Liabilities.

Preferred stock	$15,223,500	$15,500,000
Common stock	11,885,100	11,840,930
Notes payable	5,000,000	5,000 000
Accounts payable and payrolls	4,087,549	4,846,370
Federal income and profits taxes, etc.	3,354,456	8,284,796
Reserve for possible shrinkage value materials, etc.	2,500,000	.....
Profit and loss surplus	20,757,672	16,992,250
Total	$62,808,277	$63,098,216

date conveyers is unloaded by man-power on the other side.

"The high price of gasolene in European countries is an important consideration. We found upon arrival in England that gasolene there was selling for 67 cents a gallon while in this country the price was 27 cents. For this reason buyers of passenger cars and motor trucks are interested in obtaining the greatest gasolene mileage possible with their vehicles.

"In some of the countries of Europe labor practices the doctrine of "ca canny" which, in brief, means that the men do as little work as possible. Consequently there isn't the tendency to overload and speed motor trucks that there is here, which undoubtedly adds to their longevity.

"That there is real need for the stablization of exchange in Europe was apparent. There is much of the element of speculation in business transactions with other nations and, while it is doubtful if exchange in some of the countries will ever reach the pre-war levels again, when something is done to fix a more sound basis, buying activity will be greatly increased."

Tire Prices Lowered

The U. S. Rubber Company has reduced prices, effective November 1, ranging from 12½ per cent. on so-called Ford sizes of fabric tires, to 10 per cent. on larger sizes of fabric tires, with slightly smaller reductions on cords. The price of tubes is reduced 15 per cent., solid truck tires 10 per cent. While average prices of tires before the reduction are no greater than pre-war prices, the United States Rubber Company's position as to crude rubber and other materials is such that it feels warranted at this time in making the reductions named. "It is gratifying to the company to be able promptly to meet the trend of the times toward lower prices for commodities," says Colonel Colt, chairman of the board.

The Goodyear Tire & Rubber Company has revised its price schedules on all tires, both pneumatic and solid, but not on tubes, so that, effective November 1, dealers and service stations will be able to make from 15 to 17½ per cent. more money on present list prices. Present prices to consumers will not be changed, but since dealers are not obligated to sell tires at list prices, consumers probably will get some benefit from the reduced prices to dealers.

Mack Profits Large

For the nine months ended September 30, 1920, the International Motor Company reports net profits after charges and federal taxes of $3,114,331, equivalent after preferred dividends to $7.99 a share earned on the 283,108 shares of outstanding common stock of no par value.

The income account for the quarter ended September 30, 1920, compares as follows:

	1920.	1919.	Changes. Increase.
*Operating profit.	$1,475,910	$1,131,564	$ 344,346
Reserved for federal tax, etc.	525.000	420,000	105,000
Net Profits.	$ 950,910	$ 711,564	$ 239,346

*After interest, depreciation, etc.

The statement for the nine months ended with September compares as follows:

	1920.	1919.	Changes. Increase.
*Operating profit.	$5,139,331	$2,775.217	$2,364,114
Reserved for federal tax, etc.	2,028,000	877,780	1,147,220
Net profits	$3,114,331	$1,897,437	$1,216.894

*After interest, depreciation, etc.

64,000 Trucks in Illinois

An increase in the last year of more than 100,000 automobiles in Illinois is reported by Walter W. Miller, head of the state automobile department. Motorcycles, however, show a steady decline.

These cars represent an increase of approximately 20 per cent. over any year previous. Last year the total registration for automobiles was 478,000, with 12,500 motorcycles. To date over 500,000 passenger cars have been registered, together with 64,000 trucks and 11,000 motorcycles.

Arthur H. Blanchard, professor of Highway Engineering and Highway Transport at the University of Michigan and contributor to Power Wagon and the Power Wagon Reference Book, has been appointed consulting engineer of the Michigan State Highway Department.

White Company Opens Rocky Mountain Branch in Denver

In recognition of the growing importance of Denver as a motor truck distributing center the White Company, Cleveland, has established a direct factory branch in the Colorado metropolis. The installation and maintenance service heretofore rendered by the White Auto Company, formerly the White dealer in Denver, is being developed to meet the requirements not only of Denver but the entire Rocky Mountain section. The company has acquired a large and modern building at 18th and Pearl Streets to house the new branch.

C. E. Denzer, formerly manager of western sales for the White Company, with headquarters in Cleveland, will be manager of the sales department of the new Denver branch and Thomas Parramore manager of the service department.

The Denver branch will serve the territory embracing Utah, Colorado, the north tier counties of New Mexico, Wyoming, the east half of Montana, the Black Hills territory of South Dakota, Nebraska, and the three west tier counties of Iowa.

Trade Against Higher Taxes

Secretary Houston's proposal that the federal sales tax on passenger automobiles be increased from the present 5 per cent. rate to 10 per cent., and the tax on trucks from 2 to 8 per cent., has been termed "absurd" and "ruinous" by Detroit motor manufacturers.

That motor car producers, who are already suffering a loss, should shoulder the additional loss resulting from the tax, was considered impossible. If the tax be passed on to the consumer, the market, already "clinging to the ropes," would be "knocked out," for an indefinite period, they say. The result would be that the already declining returns to the government from automobile sales tax would be practically nil. Loudest among the protesters were motor truck manufacturers.

"Just how Secretary Houston figures motor trucks a luxury, I don't know," said James Heazlitt, president of the Signal Motor Truck Company. "Evidently it is three times as much a luxury as passenger cars; at least the proposed increase in taxation is three times as much. We did our best to cut prices, and accepted our losses. Now comes this proposition to add to our losses an enormous burden of taxation. It can't be done, that's all."

W. C. Rowley, vice-president of the Federal Motor Truck Company, said: "The proposition would be funny, if it weren't so serious. Sales are the goose that lays the golden egg. Such taxation at this critical time would kill the goose."

Mack Branch in Columbus

The International Motor Company has opened a branch in Columbus, Ohio. Y. B. Jones, president of the Columbus Automotive Trade Association, and formerly manager of the Lawrence Motor Car Company, has been made manager. Offices, salesrooms and service station have been opened at 195 East Broad Street.

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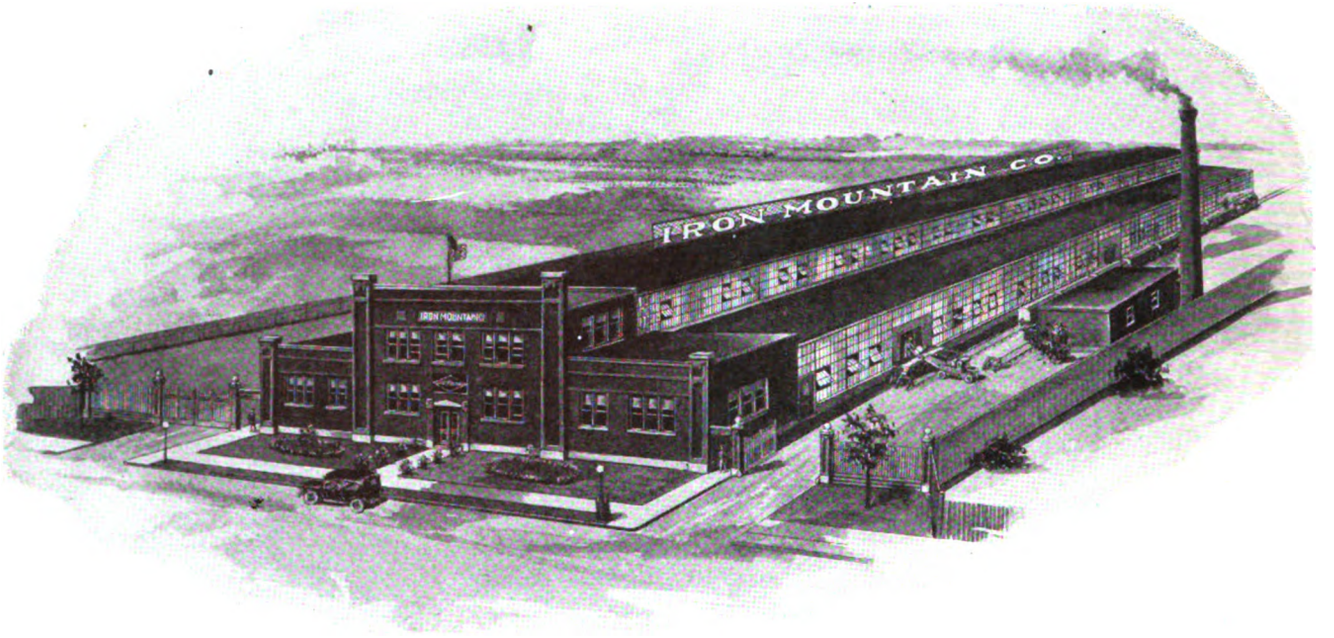

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Built in a new, modern axle plant, conveniently located in Chicago's steel and iron manufacturing district, where every facility for the prompt supply of necessary axle material is at hand.

Truck builders will get dependable axle service from us, coupled with a product which embodies the latest and best engineering practice in rear axles.

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POWER WAGON

An exponent of the most enlightened thought and practice of the motor truck industry.

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A Defender Needed

WE are witnessing some very interesting and important developments in industrial conditions these days, for industry of all kinds is passing through a period of grave uncertainty. Prices are falling rapidly, the public is refusing to buy except to satisfy its most pressing needs, and manufacturers are naturally loathe to produce. The buying public is retrenching and business is following suit; this much can safely be admitted for it is a matter of common knowledge. But an entirely different picture holds the public eye, due to the colorful painting of ignorant and irresponsible gossip-mongers. In times of slackened industrial activity these innumerable mischief-makers are busiest, and business of every kind is the target of their dangerous, suggestive and generally unfounded reports.

Instead of exercising a restraining influence on the erratic outpourings of these uninformed and misinformed mouthers, our daily newspapers—to whom a large share of the people look for guidance in forming and stabilizing their opinion—contribute to the confusion by giving the widest publicity to the most fantastic reports and by giving undue prominence to facts of purely individual significance. Every private misfortune, every local condition, is held up to the public gaze, dressed in sensational fashion and colored by the most subtle insinuations, with the result that an entire industry is made to appear on the brink of disaster and its product on the road to the discard.

In these trying times, when this industry needs every resource at its command, including that normally intangible but now highly valuable asset—good will—we find ourselves in precisely that situation. Antagonists on every side assail us with their talk of luxury, saturation, overproduction, immorality, toll of injuries and deaths, and of the terrific drain on the public's purse and patience. Everyone is led to believe that an industry, representing hundreds of millions of invested capital, employing hundreds of thousands of workers in its principal and tributary factories, and producing a machine of the greatest usefulness to a large part of our population, can be made unsafe by the transient conditions of the day. And what is most tragic of all, from a business point of view, is the fact that the banking interests of the country, to a large extent beneficiaries of the automotive industry's wonderful growth, are, until informed by the industry itself through its accredited representatives, often ignorant of its importance and stability.

The automotive group of industries may hold itself largely to blame if it is not accorded in perilous times the degree of recognition and respect that it has earned through two decades of service to commerce. Out of the welter of suspicions, half-truths and lies, in which the industry finds itself involved, there arises not a single neutral voice to say just what is true and what false, to allay the many groundless fears, or to demonstrate that this business, founded on the supply of an economic commercial necessity, will never be in real danger. Not a protest that is not colored by self-interest, not a denial that can not be discounted on account of partisanship, not a statement that carries conviction has appeared anywhere.

What this trade needs badly is an impartial defender, one who can say out of precise knowledge what this industry is, what it represents, what it seeks to attain, and what it has accomplished. Someone should be delegated to perform this essential service for the motor truck business. It is not work for an individual, a single manufacturer, or any limited group. It is clearly a proper function of trade organization and the industry is looking to the existing body—the National Automobile Chamber of Commerce—for action. If it is unequal to the task or unwilling to perform a work of genuine trade service, it must not complain if the opportunity is grasped by some other group alive to the needs of the movement.

The Purpose of Public Roads

DURING recent years the growing weight of protest against the destruction of our highways by heavily loaded trucks has assumed grave proportions and has been reflected in more than one drastic law designed to perpetuate inadequate road facilities by obstructing the march of progress. This attitude, encouraged by the majority of highway officials and propagated by those whose interests are thought to be jeoparded by the increasing use of motors in intercity haulage, has been the target of criticism on the part of the truck industry for more than a decade. Happily, the situation shows signs of betterment, but in quarters possibly least expected.

"Public roads, like everything else, are developing in their nature and character and in the uses to which the public subjects them," says the Supreme Court of Tennessee in a recent decision. "As civilization develops and the inventive genius of man progresses, new uses of public roads may be found. The remedy, in such event, is not to restrict the public in its enjoyment of the public highways, but to improve and enlarge the highways. Their sole use is to accommodate the public, and enable its members to communicate with each other, both socially and in a business way. . . . The motor truck is now a common means of transportation and its use upon the public roads is authorized wherever the size and character of the vehicle is not restricted by the legislature, and will be controlled, so far as we know, only by the convenience and profit of the public."

This is sound reasoning and good law; it states a position at which no reasonable criticism can be aimed. We are glad to see so succinct an exposition of the principle that the progress of motor traffic should not be restricted to the narrow limits of present-day highway engineering knowledge.

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6-Ton Truck Carries 200 Tons of Coal in 4 Hours

ROUND TRIP TWO BLOCKS IN LENGTH

An unusual record in coal hauling by motor truck was established recently by George K. Spofford, a Chicago cartage contractor, who delivered 200 tons of coal in 4 hours with one 6-ton truck.

"Although this work was done under ideal loading, running and dumping conditions," said Mr. Spofford, "it required perfect performance on the part of my truck. Each round trip was a trifle over 2 blocks. I made 5½ trips per hour, or a round trip every 11 minutes. I was hauling approximately 9 tons at a load, or a total of 50 tons per hour, at a cost of but 6.8 cents per ton."

Mr. Spofford, who has had a hauling contract for three years with the W. G. Davis Coal & Coke Company, of Oak Park, Illinois, has kept a rigid account of his operating costs. He has found the truck far superior to teams and wagons. His average cost is only 69 cents per ton.

As most of his deliveries are in Oak Park, Mr. Spofford's hauls are short, avcraging 5 trips and 22 miles a day. While this is a low mileage, the speed of each of his fleet of Garford trucks when running and the quick delivery possible enable him to make five 9-ton trips a day. In emergencies he has hauled 11 tons with a 6-ton truck. With a team of horses the best he could do would be three 6-ton trips a day.

"Most people would say that teams should be used for a 1-block haul," he said, "but if I can use my dump body for delivering I can make the shortest haul cheaper with my truck than with a team. To handle a 6-ton load a team would require a helper as well as a driver, against the 2 helpers and 1 driver for the truck's 9-ton load."

His cost records show 66 per cent. more trips for a truck, a 50 per cent. greater load, 150 per cent. greater tonnage, 66 per cent. more milage and a 31 per cent. lower cost per ton. Although the daily operating cost of the truck is 72 per cent. higher than that of a team, this figure is offset many times by the gain in speed, capacity and range.

"For retail coal delivery," Mr. Spofford said, "the motor truck has several distinct advantages. When delivering in alleys or out-of-the-way places or when being operated at loading chutes, it can be maneuvered splendidly."

A New Motor Fuel

In addition to natalite, which is manufactured in Natal from the refuse of the sugar-cane mills and used extensively in propelling motor cars in South Africa, there has recently been produced another motor fuel to meet the shortage and high cost of gasolene in Cape Town. The basis of this new fuel, which is called "acetol," is alcohol and ether, which comprise 90 per cent. The other ingredients are treated as a secret until the patentee receives his patent rights.

It is said that this fuel apparently solves the question of the air-cooled engine. No carbon sediment is formed in the cylinder, and the fuel is claimed to be noninjurious to the carbureter and engine. No special carbureter is required. Acetol mixes with gasolene. The inventor claims that it has a wider explosive range than the ordinary marketed gasolene, i. e., both a weaker and an overrich charge in the cylinder heads will fire when gasolene fritters out or chokes. Tests made with this fuel are said to have produced very satisfactory results.

It is claimed that acetol can be manufactured more cheaply than the present cost of gasolene in South Africa. The retail selling price of gasolene at the coast ports of this country, which is fixed by the government, is $1.12 per imperial gallon (1 1-5 American gallons) if purchased in cases of two cans containing 4 gallons each, and $1.22 per gallon if purchased in smaller quantities. Natalite now sells for $0.60 per gallon.

"Truck by Trailer"

"Truck by Trailer" was adopted as the slogan of the trailer industry at the May meeting of the Trailer Manufacturers' Association in Detroit, and the design shown herewith was approved at the September meeting in Cleveland. The association itself, the individual members and their distributers and dealers, are preparing to

use the slogan on their letterheads, in catalogs and folders, in advertising and in other ways. It is not intended that the slogan and design shall be confined to the exclusive use of members of the association. On the contrary, it is hoped that it will be adopted generally by trailer manufacturers and dealers and become the recognized insignia of the entire industry.

Sweden May Tax Motors

In the past no tax, either governmental or municipal, has been imposed in Sweden on motor vehicles, but the Swedish Highway Commission has just recommended that a yearly tax of $13.40 be imposed upon all machines with horse-power not exceeding 10, with an added $2.68 for each additional horse-power. To make the tax effective, the commission recommends that all owners, upon applying for registration, be required to furnish exact details as to the horse-power.

This proposed tax is to be collected by the government and afterwards distributed to the various road districts for road maintenance. The proposed tax is intended to cover all cars, whether used in the cities or in the country.

Use of Trailers Reduces Evil Effects of Overloading Trucks

It is objectionable from every standpoint to overload motor trucks, either habitually or occasionally. Truck manufacturers have emphasized this and the standard warranty becomes void if the truck is overloaded. Tire companies have also pointed out the damage done to tires by excessive loading. State authorities are beginning to take drastic action against the pernicious practice. In Connecticut, New Jersey, Pennsylvania and Maryland trucks suspected of being overloaded are required to be weighed to determine whether they exceed the gross weight allowed, the weight permitted on one axle or the weight per inch of tire width on any one wheel.

Overloading not only injures the truck mechanism and the tires but damages improved roads. It is an uneconomical practice and wholly unnecessary. The damage and depreciation offset any temporary advantage, and rapid destruction of roads results in higher operating and maintenance costs not only for the owner who permits the practice but for all users of the highways.

Owners who find their trucks unable to handle peak work without overloading can take care of excess loads most conveniently and economically by using trailers. The initial cost of a trailer is only about one-third that of an additional truck and the operating cost about one-quarter that of the truck. A saving of at least one-third in ton-mile cost is effected by many users of trailers, which are available for immediate use when extra loads are to be hauled and can be allowed to stand idle at very little expense when there is only enough work to keep the truck busy. An extra driver is not needed when the trailer is used. The weight of the double load is distributed over more wheels, so the gross weight comes within the limits of the law and no more damage is done to the roads than by the normally loaded truck. Damage to the truck and tires is completely avoided.

If the normal volume of hauling has outgrown the truck capacity, the capacity can be more than doubled by using the truck as a tractor with a semi-trailer attachment. The body should be removed and a fifth-wheel coupling for the trailer mounted on the frame over the rear axle. A 1-ton truck can be converted into a 3-ton semi-trailer hauling unit; a 2-ton truck into a 5-ton unit, or a 5-ton truck into a 10-ton or 12-ton outfit. The change can be effected at less cost than that involved in disposing of the truck at a sacrifice and purchasing a new one of correspondingly greater capacity. Moreover, after the conversion hauling can be done at fully a one-third saving as compared with a truck of two or three times the capacity of the old one, as shown by the records of many trailer users.

Youthful Driver Handles 2-Ton Truck

A 14-year-old boy, driving a 2-ton White truck for the Big Sandy Livestock Company, of Rock Springs, Wyoming, was recently employed to transfer 101,570 pounds of wool a distance of 28 miles. The work was handled in relays and the other vehicle was operated by a driver only 16 years of age.

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Cement Trucks Supplant Railroads

By C. C. SECRIST

Universal Portland Cement Company

THE observing traveler entering Chicago from the East almost any day last summer would have noted long trains of heavily laden motor trucks wending their way along the road toward town. The scene was somewhat suggestive of the accounts of the great war when the roads of France were lined with trucks that hurried forward the men, ammunition and supplies required. Fortunately these trucks were not carrying fuel to feed the fiery furnace of war; on the contrary they were contributing to one of the most constructive of man's activities. There was, however, an emergency and the motor truck was making good just as it did in war.

Chicago was in dire need of long deferred buildings and many projects were in progress. Thousands of men were engaged in the work and equipment was on the job. But there must be materials with which to work. Of prime importance was the supply of cement. Due to the unfortunate condition of the railroads at that time, cement did not come in uninterrupted supply as in years gone by. Like the water in the well gone dry, the lack of cement had become a matter of gravest concern. Owners, architects, contractors and material dealers must focus their attention on devising ways to get this essential commodity.

Fortunately Chicago has right at its door one of the largest and most modern of cement plants and, moreover, during the last few years roads leading from the plant to the city had been sufficiently improved to permit the operation of motor trucks on a large scale. The plant of the Universal Portland Cement Company at Buffington, Indiana, near Indiana Harbor, is 26 miles from the center of Chicago and there are concrete roads leading from the plant and connecting with paved roads of the intervening towns. Long-distance handling of cement by motor truck was not entirely new, for already in minor emergencies the practice had been found feasible. So when it appeared that building in Chicago and vicinity might be shut down extensively, bringing a long train of evil consequences in unemployment, capital tied up and the hampering of other businesses, a huge fleet of motor trucks was thrown into service for bringing cement to Chicago. And a good job it did.

Normally about 10 or 12 million sacks of cement are used in the Chicago district annually. Up to October 1, 1920 about 6,800,000 sacks of cement had been hauled by truck to work in Chicago and vicinity. The Calumet district with its great industrial development was favored with the shorter hauls. For the south side of Chicago the trip by truck was not very long. But the feasibility of keeping jobs going by truck hauling of cement did not end here. It extended to the "loop" district, to the west, northwest and north sides of Chicago where the distances were 30 to 40 miles. Points as far as Milwaukee (106 miles) and Delavan, Wisconsin (95 miles), Highland Park, Illinois (45 miles), and South Bend, Indiana (70 miles), received cement by truck rather than allow jobs to be closed down.

On one busy day at the Buffington plant, 613 trucks carried away 96,340 sacks of cement weighing 96 pounds each. Figuring the day as 8 hours, this means that a truck-load of cement left the plant every 48 seconds. If this amount of cement had been hauled the usual way by railroad it would have required about 120 freight-cars. At that time the average shipper was warranted in the belief that there were not that many freight-cars in the country. Many of the trucks carried trailers and thus were able to handle very substantial loads. In fact, the load of the trucks was restricted by the traffic regulations of the intermediate towns rather than by the capacity of the machines. The largest load for trucks and trailer noted was 476 sacks weighing approximately 45,000 pounds.

To dispatch a motor truck loaded with cement every 48 seconds was no simple undertaking for the plant management, especially as the plant had been designed entirely for rail shipments. Movement of trucks was facilitated by the concrete roads built some time previously connecting the various buildings and leading from the plant. Concrete crossing slabs, such as are used in railroad tracks at road or street crossings, were placed over the tracks in front of the loading platforms. Thus the trucks were able to back up to them, where men with hand-trucks could wheel the cement on to the motor trucks in much the same manner that they do into freight-cars. The plant had several loading platforms, at each one of which about four trucks could be loaded at one time. As the truck driver entered the plant he showed his credentials, signed a receipt for the cement he was to take, and was directed to one of the loading platforms. The whole operation was so systemized that there was little confusion and the trucks running to and from the plant met with few interruptions.

The trucks hauling cement belonged to various building material dealers or to trucking contractors working for dealers or users of cement. Some dealers assigned large fleets of trucks to the service and had despatching systems whereby loads were distributed to various jobs as they came from the mill. In this way it was possible to keep going the maximum number of jobs.

The opportunity to use trucks was not confined entirely to the Chicago district. While the Buffington plant has no dockage facilities there are docks at Indiana Harbor, about 4 miles from the plant. If boats could be used, cement could be carried by water to many lake ports which were just as badly off for this essential commodity as was Chicago. Here again the truck came to the front in bridging the gap between the cement plant and the boats. The dock at Indiana Harbor became a scene of throbbing activity. Boats were loaded for Milwaukee, Green Bay, the "copper country," Michigan City and even ports as far away as Cleveland. Boats of every description came to the dock for loads of cement, there being several boats in the slip most of the time. Even pleasure yachts were commandeered for this useful service.

Then it was discovered by some alert traffic man that at the team-tracks in Indiana Harbor, East Chicago and other near-by points, a few cars were made empty and that these cars could be secured for loading with cement at the team-tracks and that, if they were not loaded at the team-track, it was probable they would be lost for cement loading. Again the busy truck was soon ot its way to the cement plant to bring loads for these cars. In this way many users of cement at distant points were able to keep their needs at least partially supplied, although at a rather high transportation cost.

To serve as a record of its efforts to overcome the handicaps of the year 1920, the Universal company had taken motion pictures showing progressively the line of trucks entering the plant, the movements within the plant inclosure, loading, and the procession of outgoing loads, as well as other interesting scenes incident to cement shipment.

Possibly the handling of a heavy low-priced commodity such as cement for long distances by motor truck may not be as economical as rail shipment, yet the performance at Buffington last summer was a good demonstration of reliability and of the adaptability of trucks to almost any transportation problem.

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300 Miles a Day

A round trip of 86 miles one day and 300 miles the following day breaks up the routine of every day life for a 3-ton FWD truck operated by the Salts Textile Manufacturing Company, Bridgeport, Connecticut. Alternate trips are made between Bridgeport and New York City and Bridgeport and Philadelphia. There are two drivers, one man responsible for the truck, while the other acts as assistant. On the 300-mile trip between Bridgeport and Philadelphia the men take turns driving. The truck leaves Bridgeport about 5 o'clock in the morning and returns about 6 the same evening.

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Hauling Pease and Tomatoes to Van Camp Cannery

By FRANK J. HARRIS,
Harris Transfer Company, Indianapolis

TO STAY in business a transfer company must hold its customers by giving them reliable service. Our five motor trucks are the backbone of our business.

Four years ago we purchased our first truck, a 1-ton Service on solid tires. We now have in our fleet one 1-ton on pneumatics and one 1½-ton, one 2-ton and two 2½-ton on solid tires. We ran our first truck for 2½ years and then traded it in on the new 1-tonner. Our 1½-ton truck is two years old, the 2-ton truck a little over one year old. The 2½-ton trucks were purchased in 1919, one in October, the other in November.

Our business, of course, is mainly the transfer of freight between business houses and the freight-depots, and a small amount of furniture moving. Then, too, we have a contract to do all the hauling for the Van Camp Packing Company. For a couple of months each year this company requires from 20 to 25 trucks, while the rest of the year it requires only 2 or 3 trucks, so that it would not be profitable for it to operate a fleet of its own.

We rent our trucks on the job basis, a daily basis, or any time basis which the customer prefers. When our trucks are rented out, we are unable to keep watch on their loading. However, we make it a very strict rule that they are not to be overloaded under any circumstances. When a customer asks for a truck, we find out for what it is to be used. Then we send the size of truck that we think best suited to the purpose, rather than the size that the customer thinks he wants.

This elimination of overloading reduced our maintenance and repair bill to a minimum. In order to check up on the drivers, I often ride with the truck, sometimes driving it myself, so as to know just how it is operating. Another way to reduce maintenance and repair bills and increase the tire life is to keep the speed of the truck down. Our trucks are all governed so that the maximum speed is 15 miles per hour. We are sure that this increases the life of the tires because we are able to get from 20,000 to 30,000 miles from a set.

We also keep our trucks in good shape by means of daily and weekly inspections. For half an hour each day the drivers go over them and oil them thoroughly. On Saturday their whole afternoon is spent on inspection, adjustments, oiling and minor repairs or replacements. In this way I know the exact condition of each truck, and can order it into the repair shop before any serious trouble appears. I know such constant care pays because our repair bills are low and our trucks are very seldom in the shop.

On our first truck, the 1-ton on solid tires, we spent just $47.25 for repairs in 2½ years. This truck probably ran over 20,000 miles, though we have no exact record. It is our policy always to have neat, clean, mechanically perfect trucks for our customers. For that reason we not only give our trucks the very best care, but also make it a practice not to run them more than three years. We know that good trucks are good for a much longer life than that, especially if thoroughly overhauled at the end of three years. But we consider it better business for us to put the cost of the overhaul toward the price of the new truck. Our low repair and maintenance costs are partly due to this practice.

Some idea of the service which our customers demand from us, and which we in turn demand from our trucks, is given by the Van Camp Packing Company's requirements. Beginning about June 15, and continuing for about six weeks, we haul shelled pease to the packing plant from stations located within 15 miles of Indianapolis. As the season is very short, and a considerable tonnage of pease must be hauled, all our trucks are put into this service. The pease are shelled where grown, because it is a waste of truck capacity to haul the pods in to the plant, and then haul them back into the country, where they are used for fodder. But shelled pease are very perishable, and a delay on the road of two hours, or even one hour, would spoil the whole load and bring a large loss to the packing company. When we finish the season for pease, we spend 10 or 12 weeks hauling tomatoes to the packing-plant from sub-stations within 30 miles of Indianapolis. Tomatoes, too, are very perishable, and must be handled promptly and quickly to avoid a big loss.

We have held the Van Camp Packing Company's hauling contract for several years, because we have given it service as near perfect as anyone could give. The Van Camp people can't use horses for their work, because horses take too long on the road. The vegetables must be got into the plant quickly, so that they can be canned while still fresh, and only motor trucks possess the necessary speed. One reason why canned goods have not advanced in price in proportion with other foodstuffs is that the motor truck has enabled the packing companies to cut the cost of hauling and keep spoilage at the minimum.

During the vegetable canning season, the Van Camp contract occupies our trucks to the exclusion of all our other customers. One might think we would lose their business on this account, but we don't. They understand the situation and make the best of it while we're busy, because they like the way we treat them. When a customer wants a truck, and we are unable to fill his requirements at the time stated, we do not allow him to wait, but immediately tell him just when he can have a truck. As we always keep our promises, our customers know they can depend on us and can plan accordingly.

Our drivers are the very best that we can find. This means that they take an interest in their trucks and their work, and give us honest service for a good wage. Our instructions to our drivers are that, when they are on the job, they are to look out for the best interest of the customer, and act just as though they were working for him instead of for us. Our customers appreciate this point and feel that they are getting the best service possible.

We have analyzed our truck costs, using the figures for one of our 2½-ton trucks. This truck was chosen not because of its exceptional performance, but because we have a better record of it than of our other trucks. This analysis, based on three months' actual operation, shows that the cost per day is $12.69, which is remarkably low for a truck of 2½-ton capacity. Depreciation based on a life of 60,000 miles certainly is conservative, and

ANALYSIS OF THE PERFORMANCE AND OPERATING COST OF A 2½-TON MOTOR TRUCK IN THE SERVICE OF THE HARRIS TRANSFER COMPANY, INDIANAPOLIS, FOR THE QUARTER ENDED JUNE 1, 1920.

Performance.

Days in operation during period	78
Round trips made during period	286
Tons carried during period	858
Miles traveled during period	2,288
Gallons of fuel used during period	429
Gallons of oil used during period	6.5
Average number of round trips made daily	3.6
Average number of tons carried daily	11
Average number of miles traveled daily	29.33
Average number of miles traveled per gallon of fuel	5.33
Average number of miles traveled per gallon of oil	352.0

Cost.

	For the Period.	Per Mile.
Fixed Expense:		
Interest on $3,500.00 @ 6%	$ 35.73	
Taxes	3.25	
License	5.00	
Administrative overhead	75.00	
Garage	45.00	
Insurance	16.12	
Driver's wages @ $35.00 per week	455.00	
Total fixed expense	$ 636.10	27.76c
Variable Expense:		
Depreciation, based on $3,157.75 ($3,500.00 less $342.25 for tires) over estimated 60,000-mile life.	$ 120.29	5.26c
Maintenance and repair, estimated at	45.76	2.00
Tires, based on $342.25 over actual 15,000-mile life	52.16	2.28
Fuel, 429 gallons gasolene @ 31c	132.99	5.81
Oil, 6.5 gallons @ 60c	3.90	.17
Total variable expense	$ 355.10	15.52c
Total cost	990.20	43.28c
Cost per day, 29.33 miles @ 43.28c	$12.69	
Cost per ton	$ 1.1541	
Cost per ton-mile (3,432 ton-miles)	28.85c	

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we know from experience that we can reasonably expect 15,000 miles from each set of tires.

Although our maintenance and repair bills are never as high as shown, we have allowed $183.00 a year to take care of such repairs or overhauling as may be necessary. The gasolene consumption of this truck is very low, especially when we consider that most of its hauling is done over roads which are not very good. Our operating costs ought to be low because of good maintenance and our practice of not working a truck over three years.

We are very frankly and enthusiastically boosters for motor trucks. We have used them steadily for four years, and now have five trucks of four different capacities working for us. We have tried them on every kind of hard work, and have yet to find a job upon which they haven't made good.

60-Foot Roadways Needed

The Roads Improvement Association of England considers that for present-day requirements a roadway that will carry three lines of traffic traveling each way is a necessity. This means a 60-foot roadway, taking a width of a line of traffic at 10 feet, but the success or otherwise of a 60-foot roadway to carry a heavy amount of traffic depends on the several following factors:

(*a*) The roadway must be strongly made with one method of construction throughout its width. If constructed with stone blocks in the center and macadam sides, they do not wear evenly, and the traffic invariably concentrates upon one of the sections, so that the roadway rapidly loses its traffic-carrying capacity. The surface must also not have too much camber, otherwise vehicles will not keep close to the curb.

(*b*) Traffic regulations must be strictly enforced. Slow going vehicles must keep close to the curb, and faster traveling vehicles should take the next line, and keep there until they are required to pass another vehicle.

(*c*) While refuges in the center of the roads are desirable for the safety of pedestrians, their location should be carefully considered.

In general terms, except where conditions of public safety demand it, the Road Improvement Association deprecates any obstruction or reservation in the center of the highway, as, in addition to cutting the road in half, it adds to traffic dangers by reducing the available space for vehicles to maneuver. If a fast traveling street railway is desirable, it should be installed and run clear of the ordinary roadway constructed for flexible traffic.

Motor Show in India

A motor show will be held in Delhi, India, in February of next year under the auspices of the local Motor Trade Association. It will be open only to those firms in India which are agents or recognized subagents for motor vehicles, cycles, and accessories. A motor gymkhana will be held in connection with the show, in which there will be competitions for private owners as well as for dealers.

"Closing" Dealer "Prospects" by Motion Pictures

By ROLFE C. SPINNING,

Advertising Manager, Service Motor Truck Company

WITHIN the next few months hundreds of dealers will take a trip to Wabash, Indiana, for a trip through our plant to see just how and where Service trucks are made. They will be our guests, but it will cost us comparatively little because the trips will be made by means of motion pictures.

We have quite an extensive dealer organization, which, including distributers, dealers, sub-dealers and service stations, numbers approximately 1,500 different organizations. When our dealers come to the factory for the first time they all seem greatly surprised at the extent of the plant and the facilities that we have. Our grounds cover 42 acres, and at the present time there are about nine acres of actual floor space, and new units are now in the course of construction. We have been unable to get the entire personnel of our sales organization at the factory, and inasmuch as Mohammed could not come to the mountain, we thought it would be to our advantage to take the mountain to Mohammed.

The film that has just been produced was constructed to introduce our own factory officials to our dealer organization, and show them Service trucks and how they are manufactured. It also goes into the various problems of distribution, territorial development and advertising, which would be of interest to the dealer. By means of suit-case projection machines the picture will be taken around to the dealers and shown to them in their own offices.

The film commences at the garage of a dealer in the Middle West, who sees one of our advertisements and determines to visit the factories, with the idea of obtaining a selling franchise. It then pictures the administration building and the arrival of the dealer, Arthur Stevens, which part is played in the film by our staff photographer, A. B. Carpenter. After arriving, Stevens is introduced to the sales manager, Mr. Herbig, who explains to him the company's policy so far as organization is concerned; shows him how territory should be developed to obtain the maximum results and make the most money, and shows him the various models of trucks that are made by the company.

The dealer is then shown through the offices, where he is introduced to various officials. We have tried to introduce in the film all the officials who have any considerable volume of correspondence with the dealer organization, because we feel that where the dealer has the opportunity of seeing the man whose letters he receives, there would be a more intimate and personal touch in the correspondence than would otherwise be the case.

In the course of the trip through the office Stevens meets Charles Guernsey, our chief engineer, who explains to him the Service method of scientific cushioning; how there are five fundamental shocks and strains to which motor trucks are subjected. After explaining scientific cushioning, which in the film is illustrated by animated cartoons, Mr. Guernsey shows him through the factory, where the entire manufacturing processes are shown in detail, from the time the materials are received at the shipping dock, through the entire process of manufacture, with inspections at each step, until the trucks are finaly painted and ready to be delivered. There are shown the stock-rooms of the parts department and our fleet of eleven aëroplanes, by which emergency orders for repair parts are delivered when necessary. The experimental department is also shown, where all parts and units are tested, experimental parts built, truck engines tested by dynamometer, etc.

After leaving the factory, Stevens is introduced to Moie Cook, secretary and general manager, who takes him to lunch at the factory dining-room, where he explains to him the various activities of the personnel department making for ideal working conditions. Here we show the employment department, how records are kept on each individual, insurance policies that are taken out on the life of every Service worker, the premiums on which are paid by the factory, first-aid room, nurses, factory dentist, base-ball team, factory band, recreation rooms, dance hall, etc.

After lunch Stevens meets the advertising manager, who explains to him the advertising campaign that is now being conducted. He is also shown the literature that the factory prepares, and is told of the coöperation he will receive in his local sales effort.

He is then introduced to R. J. Assens, assistant treasurer, who talks to him concerning finance, and then again sees Mr. Herbig and signs the contract covering his territory.

No Trips Missed in 19 Years

Nineteen years hard service and still running continuously is the record of a sightseeing car, which has traveled 324,000 miles to date. Higgins Tours, of Chicago and New Orleans, who own this bus, have four others between 14 and 18 years old, all of which are mounted on Mack 2½-ton chassis. In winter, they are operated in New Orleans as sightseers for tourists and in summer they are transferred to Chicago where they are used in general passenger transportation. L. G. Higgins, proprietor of the company, says, "They have given excellent service during all the time I have used them and in no instance have they ever missed a single trip."

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Highway Improvement and Motor Truck Use

Graphic Data Offered by Government Bureaus Show General Relation Between Two Factors

THE provision of the federal-aid road act, which requires that the roads constructed with the aid of federal funds must be "substantial in character," has been construed in its application by the secretary of agriculture in accordance with the following principles:

(1) That the proposed highway must be an improvement upon the existing highway, and at least as durable as other roads in the section in which it lies;

(2) That the type of surfacing must be adequate to serve present and probable future traffic as determined by a traffic census and an estimate of probable development.

Guided by these principles the secretary has approved roads of all types from the lowly earth road to expensive surfaces of bituminous and cement concrete and brick. No attempt has been made to enforce the construction of the higher types under all circumstances, because it has been realized that the conditions in all cases do not require the great outlay which the construction of such roads entails.

The department and the several state highway departments have often been criticized upon the score of this policy, the critics pointing to the total mileage of roads of low type as proof that the roads constructed under federal aid are inadequate to serve modern conditions.

Those who have been familiar with the true conditions have been confident that the selection of the lower type surfaces has been justified by the circumstances of each individual project, but in the aggregate, the large mileage of earth, sand-clay and gravel roads which has been approved has appeared to substantiate the unfavorable criticism of those who have dealt only with total figures.

The roads constructed have been classified as to type of construction, and the situation with regard to the selection of types in the several states and in the United States as a whole has been clearly shown in simple tabular form which could be comprehended at a glance. But no similar means of presenting the related traffic conditions has been available, and it has not been possible, therefore, to demonstrate the injustice of the criticisms without going into the circumstances of each particular case.

The valuable survey of the distribution of farm-owned motor trucks recently made by the Office of Farm Management of the Department of Agriculture has supplied the desired comparative data in simple graphical form. On the map each dot represents one motor truck, and the density of the shading conveys at a glance the extent of motor truck usage in the various sections of the country.

Obviously the necessity for the construction of such hard-surfaced types of pavement as brick, concrete and bituminous concrete is a direct function of the number of motor trucks the pavement will be called upon to withstand when it is constructed. Where motor truck traffic is light, the chances are that automobile traffic is also light, and in the absence of these two forms of traffic there is no necessity for a stronger surface than is afforded by such materials as sand-clay, or gravel, or broken stone at best.

It is interesting, therefore, to compare the distribution of motor trucks and the relative density of motor truck traffic in various places, as revealed by this chart, with the character of the surfaces which have been selected for federal-aid roads in the corresponding places as shown by another chart prepared by the Bureau of Public Roads to show the mileage of the various types of road under agreement for construction in the several states. The principal types of road have been grouped in three classifications designated as high, intermediate, and low types. The high-type classification includes brick, cement concrete, bituminous concrete, sheet asphalt, and similar pavement. The intermediate class includes bituminous macadam and surface-treated and plain water-bound macadam; and the low-type group is composed of earth, sand-clay, gravel, shell and similar miscellaneous constructions. The mileage of road of each of the three classes in each state is shown by the length of the sections of the bars in each state batched to represent the particular types. The approximate mileage of roads of each type can be determined by reference to the scale of miles. In this connection, however, the relative mileages of the three types in each of the states are of greater interest than their numerical equivalents.

THE fact that stands out most clearly by a comparison of the two charts is that the areas of greatest concentration of motor trucks are practically identical with the territory in which federal-aid roads are predominantly of the higher types. The salient features of the highway map are these: The belt of roads of the higher types, which extends from the New England and Middle Atlantic States westward north of the Potomac and Ohio Rivers to the Mississippi; the beginnings of a movement toward the acquisition of roads of these classes in the other Atlantic seaboard and Pacific Coast states; and the great preponderance of low-type roads in the Great Plains and Rocky Mountain states.

Turning to the motor truck chart it is evident at once that the same areas which hold the bulk of high-type federal-aid roads are those which have the largest numbers of farm-owned motor trucks; and the scarcity of the motor trucks in the Plains and Mountain states offers the most convincing reason possible for the selection of the low-type roads in those sections.

Naturally, there are exceptions to the general agreement of the two maps. In the State of Florida, for example, no great concentration of motor trucks appears, yet the high and intermediate types of highway predominate. This condition is explained, of course, by the heavy tourist automobile traffic, the consequent necessity of providing some sort of surfacing for the sand roads, the dearth of local road-building material of the cheaper sort, which has resulted in a general resort to brick and concrete throughout the state.

ON the contrary, the States of Nebraska, Iowa and South Dakota do not appear to have as great a mileage of high-type road as the concentration of trucks would indicate to be desirable. The explanation in this case is that these states have a well-defined policy, in accordance with which they are expending their funds for the most part to grade and drain the native roadbed with the fixed purpose of adding the surfacing material at the earliest possible date. The almost entire absence of roads with any improvement whatever and the large mileage which required improvement, when these state set out upon their work of highway improvement only three or four years ago, makes this policy an eminently wise one. The money expended for grading and drainage—every dollar of it—goes into a lasting improvement, and improvement which, small though it may be in eastern eyes, is yet a substantial improvement over previous conditions and is, moreover, the ground-work for future surfacing, when the whole territory which must benefit has been lifted out of the deepest mud by adequate drainage and grading.

These are the outstanding exceptions to the general agreement of the two charts. On the other hand, in a state like Ohio, where, according to the motor-truck chart, the roads must bear a heavy concentration of trucks, federal aid has resulted in the construction of types of road which are designed to meet the requirements of truck traffic. Sixty-nine per cent. of them are high-type roads, 20 per cent. are of intermediate type, and only 11 per cent. are included in the low-type classifications. This represents not only a strong effort to provide roads suitable for the loads, but is, in every respect, an advance from the conditions which existed in the state just before the passage of the federal-aid act, when 81.8 per cent. of all the roads of the state were of low types, 16.6 per cent. were of intermediate type, and only 1.6 per cent. could be classified as high type.

It is recognized, of course, that the number of rural-owned motor trucks is only a portion of all the trucks owned in the United States. But the great majority of city-owned trucks are operated in the states which show the greatest preponderances of high-type roads, and those that are owned in other sections, it is safe to say, impose no demands upon the highways of those sections beyond a radius of 60 miles from their city homes. And as it happens that these are sections where the distances between cities are great, the bearing of the city trucks upon the highway problems of the states as a whole is not great.

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Highway Transport Problems

Federal Highway Council's Work, Outlined by Reports at the Recent Akron Transport Conference, Merits Support of All Beneficiaries of Highway Development

THE Transportation Committee of the Federal Highway Council is inaugurating and perfecting plans which, when carried to conclusion, will have far-reaching effects on our general transportation system. These call for the study of some of our greatest economic transportation problems, and as it has gone into the many angles presented it is convinced that only the closest coöperation with the most careful research can bring about a plan whereby the public may enjoy the greatest benefit. The policy adopted by the committee is broad in scope and has proved sound: "To assist in coördinating highway transportation with the other transportation agencies of the country; to encourage the development of highways that will advance the economic life of the nation; to stimulate their use in such a manner as to facilitate and cheapen the transportation of food, raw material and finished products; and to coöperate with government agencies, both state and national, to the end that our highways may be of maximum service in the transportation system of the country."

The cordial coöperation received from other interests indicates beyond any doubt that the work will be effective and help solve many of the problems confronting our country in connection with transportation.

The work of the committee is divided up in order that intelligent consideration may be given each particular subject, and the responsibility divided so that too large a burden will not be placed upon any one committee. The following is a list of the subjects being taken up by the committee, together with the chairmen, who have assumed the responsibility of carrying to conclusion the work at hand.

Relations of Highways to Railroads and Waterways.—The plan is to coöperate with the railroads, waterways and other forms of transportation to the end that the public may enjoy that form of transportation which is most efficient, economical, and practical, and involves a study of short-haul and terminal problems. W. J. L. Banham, general traffic manager of the Otis Elevator Company, and member of the Executive Committee of the National Industrial Traffic League, is chairman.

Rural Motor Express.—J. H. Collins, formerly Investigator in Market Surveys, United States Department of Agriculture, chairman.

Co-operation with the Universities and Schools.—A. H. Blanchard, professor, University of Michigan, and president of National Highway Traffic Association, chairman.

Co-operation with Motor Truck Users' Organization.—W. H. Stone, chairman.

Highway Transport Functions of State Highway Departments, Including Traffic Surveys, Traffic Control, and Snow Removal.—David Beecroft, chairman.

At the recent Akron conference W. J. L. Banham, chairman of the Committee on Relation of Highways to Railways and Waterways, said in part:

"There is no reason in the world why the various transportation concerns should consider themselves in a class by themselves. There is no one class of transportation going to solve the problem of this country. It is going to take all the forms of transportation, and that problem is not going to be solved for some time. . . . We do not mean to take transportation away from the railways or the waterways, but to put transportation where it belongs. I do not think it is fair for any form of transportation to say that it is entitled to have certain forms of transportation. There is plenty to go around and that condition will continue for some time. . . . We want to coördinate all forms of transportation. In some sections of the country they object to railway transportation. In other parts they object to waterway transportation. In the east we have no choice. We figure that certain traffic belongs to the railroads and certain traffic to the waterways. Take the short-haul traffic. When the railroads are not very busy they say, 'Short-haul traffic is our traffic.' When they get busy and can not handle the short-haul traffic they say, 'Well, short-haul traffic is not our traffic anyway.' We must have certain definite means of transportation; we can not stay in business unless we do. We must make a dividing line somewhere."

THE sub-committee on Motor Trucks in Terminal Work reported:

1. The motor truck has demonstrated its usefulness as an adjunct or supplement to railways and waterways for transportation in terminal work. The most striking example thus far recorded for every day terminal work is that of the Motor Terminals Company, Cincinnati, Ohio.[1] During railway congestion in numerous cities in recent years the motor truck has likewise demonstrated its usefulness as emergency relief to railways and waterways for terminal work.

2. The principle of usefulness having been established, the question becomes one of detailed methods to meet local conditions.

3. The sub-committee, therefore, recommends that the Federal Highway Council urge upon local chambers of commerce and similar commercial organizations in all cities an intensive study of the applicability of motor transportation to terminal requirements. It is assumed that such local commercial bodies will include all local interests concerned in terminal work. The question concerns carriers by railways, waterways and highways, public authorities representing highway maintenance and highway traffic control, consignees who pay the freight, commercial interests who develop the traffic strategy of a city, and operatives. The idea to be inculcated is that of an activity of large public import affecting every element of community interest.

THE sub-committee on Store-Door Delivery suggested that that part of terminal congestion caused by cartage difficulties may be relieved by the inauguration of some system of immediate delivery to the consignee of incoming l.c.l. freight. This may be accomplished by the following plan:

The municipal area should be divided into zones of delivery.

The shipper will be required to mark the package and shipping papers with the street address of the consignee. The railroad agent at point of origin will add the zone from a guide book supplied for the purpose.

Where the delivering carrier has two or more stations in the area, the station nearest the zone in which the delivery will fall will be designated. Goods upon arrival will be unloaded at the designated station.

The freight-house at destination will be divided into sections corresponding with the zones of the city and freight on arrival will be placed in these sections, grouped according to blocks in the zone and ready for delivery to the trucks.

The freight-terminal will be served by a single consolidated trucking service, whose trucks will travel over prescribed routes.

No outside trucks will be permitted to call at l. c. l. platforms.

As trucks arrive they will be fully loaded and immediately despatched.

All freight charges as indicated by the railroad and also cartage charges will be collected from the consignee by the consolidated trucking service. For this collection the consolidated trucking service shall give a bond satisfactory to the railroad companies.

A reasonable tariff of charges for delivery should be published and filed with the proper authorities. The rate should be commensurate with the service, calculated for each zone, and such rates would be similar for all terminals within each zone. The cartage charges should be in addition to the freight rate.

So far as possible mechanical means should be installed for the handling, loading and despatching of the trucks.

These deal entirely with less-than-carload freight, and it is the thought of the committee that carload freight be not considered at this time.

[1] [See "Motorizing Terminals" in the April issue.—Ed.]

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After once establishing the in-bound trucking service to the consignee a further study should be made for the pick-up freight service for out-bound shipping.

The Committee on Rural Motor Express discussed franchises, insurance, uniform receipts and bills of lading, marketing, return-loads and motor trucks on farms.

For the elevation, substantiability and protection of rural motor express the committee recommended that a thorough investigation be made to consider ways and means of providing regulation and protection of this means of transportation, it being evident that, unless such protection is provided, this industry will soon be unable to secure sufficient capital to develop this vital aid to transportation.

It was recommended by Tom Snyder that the use of the term Return-loads Bureau be discontinued and that the term Transport Clearing House, or Transport Bureau be used instead. Return-loads bureaus have failed generally, due to the fact that the shipper usually feels that, because his shipment is being taken as a return-load, the lowest price is a profit to the truck operator. This sets a very bad precedent, because it sets the highest possible fee the truck operator can secure for his outgoing shipment, and the lowest possible fee for the incoming shipment. It was also stated that return-loads bureaus can be best established and successfully operated out of the larger industrial centers by utilizing the incoming truck and providing a close connection with wholesalers, jobbers and shippers for the outgoing load.

The committee on Subgrade and its Relation to Road Surfacing and Traffic reported as follows:

The conditions of traffic have undergone a very radical change during the past several years. We have seen the weight of the individual unit of traffic gradually increase so that at the present time many of our roads are forced to carry motor trucks having a capacity of 7½ tons. As a result the wheel concentrations on the road surface, combined with lack of supporting value of the underlying subgrade, have resulted in structural failures of every type of road constructed up to the present time.

The problem of eliminating road failures due to poor foundations seems to be possible of solution in one of the following ways:

1. Make the road surface thick enough so that the pressure from heavy traffic will be sufficiently distributed to the underlying subgrade, or so that the surface, because of its inertia, may absorb a considerable amount of the shock of traffic.

2. Design the slab to have sufficient strength to bridge over the soft subgrade.

3. Improve our drainage systems to exclude moisture in sufficient amounts from soils which are rendered of very low bearing value by the presence of moisture.

It is perhaps true that most soils have adequate bearing value when they have a sufficiently low percentage of moisture, or it is not impossible that some soils will be susceptible of treatment, either chemically or mechanically, which will give them a higher bearing value than they have in their natural condition. Knowledge as to how to treat different types of soils so as to stabilize them and render them of the highest bearing value, is at present nonexistent, and it is the purpose of this subgrade committee to make such studies as are necessary to throw light on the methods of treatment of subgrades so as to make them of adequate supporting value for the various types of road surfaces.

The committee feels that the most important problem from the standpoint of road design at the present time is that of determining means for increasing the supporting value of the subgrade. A very intensive study must be made to discover: (1) the underlying causes of weak subgrades, and (2) means for correcting poor subgrade conditions.

The field to be covered by this committee is exceedingly large and, to accomplish the desired results in the shortest possible time, it has been necessary to subdivide it into a number of problem committees, each problem committee to study a particular phase of the subject.

The following problems have been outlined as subjects to be studied by the various committees:

1.—(*a*). Obtain samples of subgrade materials at points where failures have occurred; also obtain samples from the same road of like construction and like traffic where failures have not occurred. Data accompanying the samples should contain information as to the typography, type of drainage, character of construction, and all other information having relation to the condition of the road.

(*b*) Make physical examination, bearing value tests, and such other investigations as may be suggested with data furnished.

2.—Developing field tests for bearing power of soils.

3.—Making studies in drainage, using experimental sections of roads.

4.—A study of chemical methods of subgrade treatment for increasing bearing value or preventing absorption.

5.—A study of mechanical methods of subgrade treatment.

6.—A study of the effects of freezing and thawing on the volume and on the supporting properties of soils.

7.—A study of the effect of moisture on the volume changes in soils.

8.—A study of the transmission of pressure transmitted to the subgrade.

9.—A study to ascertain the practical classifications of subgrade materials.

10.—Special problems.

There is every indication that the amount of traffic over our roads will be greatly increased in the future and this probably applies particularly to the transportation of freight. The expenditure involved in the construction of the various road systems is enormous, and it is vital that these roads be built on foundations as stable as it is possible to make them. An investigation of methods for obtaining high-class construction should very properly be considered as part of any program of construction and it should be emphasized that of the funds appropriated for road construction there should be set aside an adequate portion for pursuing the needed investigations to make for wise expenditure of these funds.

Monmouth Show Successful

The most successful exhibition of automotive appliances and cars ever held in Monmouth County during the past ten years closed November 6. Every make of automobile and truck sold in the state of New Jersey was exhibited and in addition a very representative display of farm implements and tractors was interestedly viewed by the thousands who visited the show.

During the past ten years the shows held by the Automobile Dealers' Association of Monmouth County have been in Red Bank and Asbury Park. However, the attendance and the interest aroused this year have been such that the annual show of this county will hereafter become an institution in Long Branch.

Credit is due S. Heimlich, who managed the show for the dealers' association, and Harry C. Rehm, vice-president of the Long Branch Chamber of Commerce. The latter was designated by the mayor to look after Long Branch interests in the show and his active coöperation aroused the interest of the officials and business men of Long Branch, resulting in the city financing the improvements necessary to make available a building which in itself became a Grand Central Palace on a small scale.

New Use for Trailers

Every few weeks some new use is found for trailers which can not be filled by any other vehicle. A New York State dealer in gasolene, electric lighting and power plants for farm and household use proposes to use light 2-wheeled trailers for demonstrating the outfits. He plans to load a generating plant, which weighs about 500 pounds with battery, in the trailer, couple the trailer behind his light runabout and drive to the home of a prospective customer. There he will leave the trailer and generating outfit for one or two nights so that the householder or his wife can operate it and become satisfied of its convenience and ease of operation. The dealer will drive back to his office or home after delivering the plant and call again in a day or two. By this method he believes he will make more than enough additional sales to pay for the trailer several times over. The advantage of the trailer is that the outfit can be left overnight without being unloaded and loaded again. Lighting plant dealers now often mount the outfit on the rear deck of a light automobile but find that the load is injurious to the car. Moreover, the car can not well be left all night.

Funk New Midwest Engineer

Announcement is made by the Midwest Engine Company, of Indianapolis, of the appointment of T. B. Funk as chief engineer of the Utilitor Division of the company. Mr. Funk began work on a small cultivating type of tractor back in 1911. At that time it was not his intention to design a machine that would do plowing. His first efforts led to continued work on tractor designs which resulted in the original drawings for what is now the Moline tractor, but Mr. Funk has continued to study the possibilities of the one-horse type of tractor capable of plowing as well as cultivating. He spent several years as chief engineer of the Moline company and then founded the Engineering Development Company.

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Trucks Will Aid Waterways

By F. L. HENK,

Executive Secretary, Detroit Transportation Association

THE first effort at long-distance motor haulage in the United States was forced by the urgent demand for materials, food products and other commodities which the railroads could not handle under the existing conditions. It became necessary to make intensive use of the motor truck for trips across the continent and to the eastern seaboard. The long convoys of heavily laden trucks, often with equally heavily laden trailers, became a common sight, although at first they attracted much attention for the reason that nobody had realized that the motor truck could travel long distances.

Due to the fact that the state of Michigan is a peninsula, surrounded on three sides by the Great Lakes and navigable rivers, probably our state will benefit most. Our potential harbor facilities are immense, and should ocean liners operate on the Great Lakes, there would be harbor developments on both our east and west coasts. Now, the widest section of Michigan is only 200 miles across, and with harbors at both sides of the state, the longest hinterland haul would be a little over 100 miles. In territory where there are now railroads, with the development of our good roads system, motor truck routes would be established and the fact that this territory will be in direct contact with a world port will rapidly build up sections of our state that otherwise would remain dormant Where there are railroads and good roads parallel their territory the truck will of course enter into competition, and this competition will make for better transportation service between the ocean freighters and the ultimate consumers.

Michigan at present has nothing to brag about in the way of good roads. With the exception of a few counties, we have been rather slow in developing our highways. Our state has awakened, however, to the great need, and a year ago last April the voters passed a $50,000,000 bond issue for better roads. This, together with county and federal aid, will swell our road fund to $150,000,000, to be spent within the next ten years. Within five years, or the time estimated for the completion of the Great Lakes-St. Lawrence project, we will have a continuous system of splendid hard-surfaced highways reaching from Detroit across the state and touching every important industrial center in Michigan.

When these highways are completed what will be simpler than carrying from and to the ocean liners in Detroit or west coast cities of Michigan the import and export freight of the small shipper or the concern that now uses l. c. l. freight service? This will effect not only a saving of cartage charges at both ends of the line, but will also save much time. Then, too, in case of rail strikes, the motor truck will promptly fill the gap and make it possible to meet sailing dates. The ability of the motor truck to perform substitute service for rail carriers was clearly demonstrated last spring during the switchmen's strike. Thousands of tons of merchandise was carried by motor truck between Detroit and other cities within a radius of 300 miles.

The motor truck will also prove useful in filling in the gap between newly established ocean ports and other ports in the development stages. This will be made possible through a combination of motor truck transfer and warehouse service. Through the use of the truck, warehouses located a distance from the ocean steamship pier could be utilized until such time as the dock warehouses could be placed in operation.

At present there are somewhat over 2,500 motor trucks in the County of Wayne engaged in professional commercial hauling. In Michigan there are a total of about 7,000 merchandise-carrying trucks engaged in the hauling industry. These 7,000 trucks would have a total capacity of almost 30,000 tons. At present there are in operation about 58 highway transport lines operating between Detroit and other Michigan, Ohio and Indiana cities. About 1,000,000 pounds of freight is moved between Detroit and points up to within 200 miles of Detroit daily. With the advent of better roads the facilities for handling a greater amount of tonnage via motor truck will be increased.

It is a matter of common knowledge that the long-distance highway transport industry is developing 200 per cent. faster in territory adjacent to ocean ports than between our inland cities. The development of market roads and improved highways also shows a corresponding increase. The state of California, although somewhat isolated from the rest of the country, has about the best highways of any state, due to the fact that the state is located on water with numerous ports. In California the economical radius of motor truck operation is estimated at 500 miles. As a result California has developed in land values.

FRUIT ranches at one time practically inaccessible by railroad and consequently far from paying propositions, are to-day immensely remunerative as a result of efficient and regular motor truck transportation. Another important factor in motor transport of perishables such as fruit is the conservation of the product through careful and limited handling, to say nothing of the saving through protection against pilferage.

Probably the greatest service the motor truck would perform in connection with the new waterway would be in creating efficient port facilities for transferring freight from ocean ships to the rail carriers. With the passing of the horse truck in Detroit, the motor truck has stepped into the breach in a highly efficient manner and with extra speed and added capacity has reduced the cost of freight transfer very materially. We are at present watching the experimental work being carried on in Cincinnati with demountable bodies and in St. Louis with detachable trailers for use in transferring freight between rail carriers, and within the next few years it is expected that these facilities will be developed to a high state of efficiency. Similar systems would no doubt be installed on ocean piers and thus a great saving of time and money would be effected.

DETROIT is particularly well equipped to handle the local transfer problem on account of the organization of the many individual units that go to make up the cartage industry in the city. Our organization has a system of interchange of motor trucks through the medium of a blackboard, and in this manner we are always in a position to furnish from one to 100 motor trucks on very short notice. The rail strike showed our preparedness in this line.

Then, too, we have no labor problem in Detroit and we are close to the source of supply of truck parts in case of breakdown.

Anything that would make for the development of the commercial hauling industry must necessarily assist the truck manufacturing industry, and in Detroit and the territory within 75 miles of Detroit are made more than 50 per cent. of the motor trucks manufactured in the United States. (Nov. 1920—Cut)

Truck Picture Stops Parliament

Evidence of the active interest in motor transportation in foreign countries is seen in the adjournment of the parliament of Perth, West Australia, for one hour during an official session to watch a truck motion picture film and listen to facts regarding motor transportation in the United States. The "movie," which is said to be the first one ever exhibited in the parliament house, was staged by R. W. Pachaly, representative of the Export Department of the Four Wheel Drive Auto Company, Clintonville, Wisconsin. Mr. Pachaly also addressed the assembly and told how large business houses and municipalities in the United States were using motor trucks in the conduct of their business. According to advices from Mr. Pachaly the film aroused considerable interest and brought on a general discussion of motor transportation, during which he was asked numerous questions.

Among those present were such prominent officials as the premier, the minister of public works, minister and commissioner of railways, minister of agriculture as well as the members of parliament.

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Five 4-ton Trucks Displace Thirty-eight Lumber Horses

YARD LAY-OUT FACILITATES DELIVERY

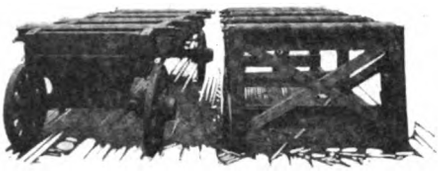
Located ideally on the banks of the Cuyahoga River with an open passage to Lake Erie, the Mills Carleton Lumber Company of Cleveland, Ohio, has organized its yard lay-out, loading and unloading facilities and hauling methods so as to balance perfectly with the splendid natural advantage of its water front location. Lumber is brought in through the Great Lakes and unloaded by crane directly into the company's yards, or by a railroad line which completely circles the yards with an opening on to the main line at both ends. Material coming in by rail is handled internally over numerous sidings all through the yards.

Fourteen horses are used for hauling in the yards, and deliveries in and around Cleveland are made with five motor trucks. All trucks are equipped with specially designed roll-off bodies and carry 4-ton loads.

Big timber and small stock are kept in different sections of the yard. Through the center a street has been cut and on this thoroughfare is located the office and truck storage garage.

Besides the cranes used for unloading both railroad freight-cars and steamships, the handling equipment consists principally of stationary and portable loading platforms with roll-tops and a large number of 2-wheeled, center-balanced yard carts. These are loaded by placing a piece of timber under one end to keep them level. When loaded, a horse harnessed to a 2-wheeled arrangement is attached to the cart by means of a pivot. The lumber is hauled in this manner to the loading platform. The loading platforms are kept constantly in readiness to shift a load on to a truck as soon as it comes in from its previous run. Portable loading platforms are also used when it becomes necessary to load a truck out in the yards. They are of practically the same type as the stationary loading platforms. Their use eliminates the yard carts. The design of both the movable and stationary loading platforms makes it possible to load a motor truck in less than one minute. Unloading is done in like time by means of the roll-off arrangement on the truck bodies. This system reduces truck idleness to a minimum.

No branch yards are maintained. When an order is received at the office, three copies are made. One goes to the shipping clerk, who checks the address, etc., and the load before it leaves the yards; another copy goes to the yard foreman, who gets the order ready to ship; and the third copy is kept on file in the company's main office. On account of the nature of the business no regular delivery schedules can be maintained. Deliveries are made as the orders come in, or come off the files. The drivers, being thoroughly familiar with all parts of the city, pick out their own routes. After making a delivery they report back to the yards at the earliest possible moment.

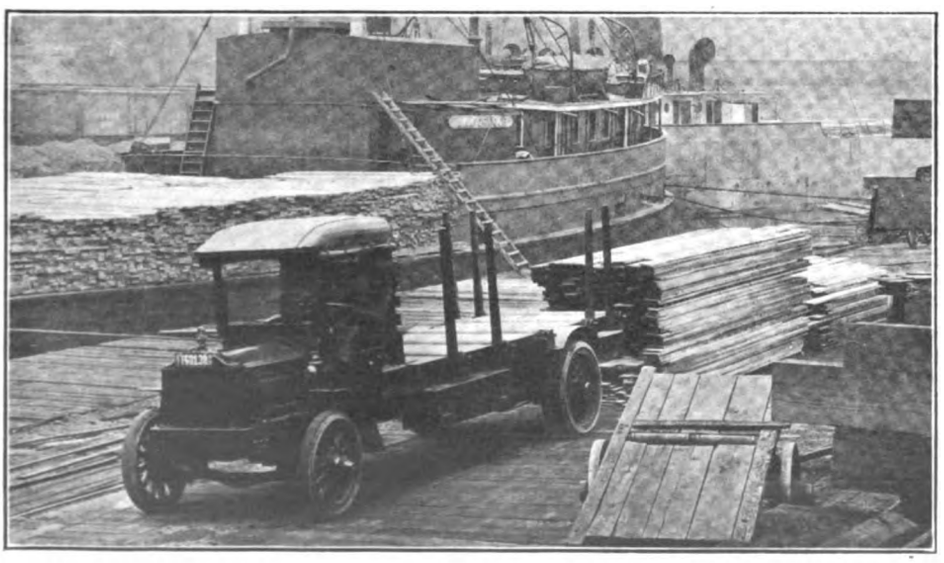


A pair of lumber loading platforms—one portable, the other stationary.

The Mills Carleton Company has no cost system covering the operation of its trucks, and although it operates its own storage garage, all maintenance work is handled at the truck maker's service station in Cleveland.

Formerly 52 horses were used for yard work and delivery purposes. Since the company now needs only 14 to do the hauling in the yards, the five Packard trucks have replaced 38 horses.

Under the title "Rainier Evidence" the Rainier Motor Corporation of New York has just issued a booklet of commendation from motor truck owners. It contains many interesting little sidelights on motor wagon operation and economy.



One of the Mills Carleton trucks and a 2-wheeled yard cart.

Many Motor Vehicles Used by State Government Departments

Thirty thousand motor cars and trucks are serving the various departments of the governments of the 48 states. Twenty-three thousand of this total are trucks and automobiles used by the states for the improvement of highways. About 4,500 of the remainder are passenger cars which the authorities have purchased for the needs of official business.

More motor vehicles are used by the state highway commissioners than by any other branch of the government. This holds true for passenger cars as well as for motor trucks. The health and hospital divisions are the next heaviest users, with education and agriculture next. Prisons are the next in line as car users, with state militia or police last.

Comparison of the various states is difficult since the methods of recording car ownership vary. Idaho is among the leaders with 392 motor vehicles, though it is not specified which of these are passenger and which freight vehicles. New York is in front rank with 553 trucks and 125 passenger cars. Georgia has 687 self-propelled vehicles, of which 603 are trucks; while Pennsylvania easily holds first place with a total of 826 motorized units, of which 490 are trucks and 336 passenger cars.

Among the greatest users of motor trucks are the following states. Some states have not compiled their truck totals which might qualify them to appear in the list:

Iowa	656
Georgia	603
New York	553
Pennsylvania	490
Tennessee	463
South Dakota	275
New Mexico	250
Connecticut	179

The line-up for passenger car leadership is somewhat different:

Pennsylvania	336
California	325
Oregon	155
Massachusetts	147
Washington	147
Maryland	140
Maine	134
Ohio	134
Virginia	410
Idaho	392*
Virginia	410*

*May include truck figures not specified.

Horses for Play; Motors for Work

Certain truck and tractor manufacturers have frequently expressed the belief that "Old Dobbin" is headed for the bone-yard. They have rather emphasized this declaration in their emanations in the public prints, and it has served to arouse the friends of equine motive power to a spirited resentment. True, this resentment is based largely on sentimental reasons, but it is being demonstrated that Old Dobbin has a few friends left. The tractor men and the truck men and the farm-power equipment men are not to be permitted to relegate Dob to the rear in this unseemly fashion. Not so! Just to prove it, here comes some new propaganda to show how entirely useful the horse is.

Horseback riding is the answer. The Horse Association of America has made the discovery. Relaxing for the moment its intense campaign to find reasons why horse power is the only power for the farm or the

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highway, the H. A. A. decides that, anyway, the horse is a good plaything and now urges a widespread adoption of saddle horses and sport horses. "There are many more horses kept for hire to-day than before the advent of the motor car," says a recent bulletin.

Motor manufacturers are not going to find fault with this, according to Lon R. Smith, general sales manager of the Midwest Engine Company. "Builders of power units for the farm or for the highway are not trying to put Old Dobbin in the has-been class," declared Mr. Smith. "Far from it. Dobbin is saving them the trouble. That is, Dobbin and the march of progress are doing so, for Dob is headed one way and the march of progress is headed the other, and that's all there is to it.

"Dobbin is very expensive and highly inefficient in the light of modern needs and modern methods. Therefore, it is proper enough that he be retired from the drudgery of this workaday world and take some of the pleasure of equine life while the taking is good. Tractor and truck manufacturers therefore can all agree that the Horse Association of America is spreading good propaganda in advocating the widespread increase of horseback riding. Commercial loads on the highways and agricultural loads in the field nowadays require a motive power that will deliver the goods at the least possible expense for up-keep, and giving a maximum amount of work in return. We are not fighting the horse. The horse has just naturally lost out and neither the king's equine or the king's men can put this four-legged Humpty Dumpty back—he just belongs to the increasing list of the things that were. Ride him for pleasure, but use dependable power units for transportation—that's the answer."

Four Days' Work in 3 Hours

The Luger Furniture Company has one factory at North St. Paul, 22 miles from its main factory at Minneapolis. Although shipping facilities by freight were excellent and the rates low, the concern lost thousands of dollars in orders because four days were required to ship a car of furniture from one factory to the other. Two 2½-ton Selden trucks were put in service as a belt line and now the firm can ship any desired quantity without waiting for a carload and the trucks make the trip in three hours. They have eliminated breakage, costly delays and, although the shipping by truck is a little more expensive, results have more than justified the extra cost. The trucks also bring raw material when needed quickly and thus have kept the factories from shutting down on several occasions. They have solved a serious problem in linking up the manufacturing processes and so have increased the production of the organization. On an average 50-mile day the records of the Luger company show the cost of the truck to be $16.70, including all items. Some days the results are much better. For instance, one where two 31-mile trips were made with a total of five tons carried. This resulted in $18.90 cost per day, $3.76 per ton and 24 cents per ton-mile.

New Motor 'Bus Service for Chicago Commuters

Fleet of 31-Passenger Machines Plies Between Depots and Department Store

A NEW development in motor 'buses appeared on the streets of Chicago last month. The Depot Motor Bus Lines, Inc., owners of the 'buses, are incorporated under the laws of the State of Illinois, with a capital of $50,000, and are operating under a certificate of convenience and necessity granted by the Public Utilities Commission of the state.

The 'bus service is now operating between the retail store of Carson, Pirie, Scott & Company, the Chicago & Northwestern Railroad station and the Union Depot. A 5-minute schedule is maintained from 7:30 A. M. until 5:45 P. M.

Each 'bus seats 31 passengers, the seats being arranged cross-wise, upholstered in leather and equipped with grab-handles. The 'buses are equipped with electric starters and headlights, exhaust heat and are lighted by electricity. The Clydesdale 2½-ton chassis will be used exclusively. The bodies were built by the Thomas T. Hoskins Company of Chicago.

Passengers enter the 'buses through the door at the right-hand side, and leave by both front and rear doors. At the front entrance there are two stationary steps, while the two rear steps open and close automatically with the opening and closing of the rear door.

The bodies are painted a Brewster green, gold trimmed, and the chassis is painted a deep red. This effective color scheme adds exceedingly to the attractive appearance of the 'buses. Handles are placed at both front and rear doors to facilitate ingress and egress. Adjustable ventilators are placed at both front and rear. The interiors of the 'buses are finished in walnut, and all windows are curtained.

The service is under the management of W. T. Gridley, who for a number of years operated the mail service in the city of New York.

Each 'bus makes 18 round trips per day, and as the distance between Carson, Pirie, Scott & Company's retail store and the Northwestern Depot is one mile, each truck travels 36 miles per day. In order to avoid any tire delays the 'buses are equipped with cushion tires. Six 'buses are now in service and one is held in reserve.

Mr. Gridley states that the company will keep a most complete record of the operating costs. The system he has devised is complete in every respect. The driver's report and the cost analysis cover every detail.

The affairs of the company are conducted largely as those of a railroad. Tickets and cash fares are both used, the former printed in strips of six, and sold for 50 cents, while the cash fare is 10 cents. Johnson fare boxes are used and are placed so that the passengers deposit their fares on entering.

The chauffeurs wear neat and distinctive uniforms, with the monogram of the company embroidered in gold on their caps.

After the regular daily service these 'buses will be rented for theater parties, weddings, etc. The signs on the tops of the 'buses are so arranged that when the vehicles are engaged in the livery service they can be dropped back on the top of the 'bus bodies.

A complete survey was made before the organization of the company. Statistics showed that 82,000 suburban passengers enter and leave the city from the two stations mentioned daily. The 'bus lines, in order to fill their 'buses with 50 per cent. capacity, will be required to carry only 3,348 passengers per day.

Ten-Day Ban on Motors

It has been suggested several times, in connection with revenue taxes on motor vehicles as a luxury and as emergency war measures to conserve supplies of steel, gasolene and other materials, that the operation of all automobiles and motor trucks be prohibited for a period of a week or ten days to prove whether or not the motor vehicle is essential. The proposal never was taken seriously except by the Fuel Administration, which gave us some gasoleneless Sundays, probably because everyone tacitly recognizes the important place filled by motor transportation. Some bankers have been inclined to treat the automobile and motor truck as unessential when dealers and purchaers have asked for loans to finance their purchases, but John G. Lonsdale, president of the National Bank of Commerce of St. Louis, has a broader conception of present-day conditions. Speaking of the effects of a 10-day ban on motor vehicles, he says:

"The elimination of automobiles for ten days would have disastrous results beyond a mere physical slowing down in the movement of men and commodities. Bank credit, for example, would be frozen up. Foreign exchanges would be affected by the inabilities to make overseas shipments according to schedule. Brokerage transactions would decline in volume until the business world could see its way out of the tangle. It is not stating matters too strongly, in fact, to say that general business chaos would be in evidence not only during the 10-day period, but for weeks thereafter, until the country had caught up with its hauling."

4,688 Fords in One Day

The Ford Motor Company broke all existing production records in October. There were 102,000 cars turned out. On one day 4,688 cars were built, or at a rate of one every 18½ seconds. The company's official estimate for the fiscal year ending July 31, 1921, is 1,250,000 cars and trucks.

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One-Ton Truck Saves $5,500 in Year

By WILLIAM LINK,

Manager, Imperial Japanning & Enameling Works, Chicago

OUR 1-ton truck does the work of four single wagons, saving us over $18.00 a day on our deliveries. Besides, it enables us to give better service to our customers and shows them we are an up-to-date concern.

We purchased this truck—a Service—two years ago, when moving into our new plant on Grand Avenue. It has been operating 305 days a year and has cost us exactly $76 for repairs in the two years. It is now being overhauled for the first time.

This truck is used for delivering to our customers finished enamel work—bicycle frames, automobile radiators, fenders, and many other products requiring a high grade finish. It is always reloaded with unfinished parts of the same sort for delivery to our plant. Consequently it averages a ton load both ways.

Every day the truck makes 6 round trips, each of which requires 25 pick-up and delivery stops. The routes traveled necessarily take it into Chicago's most crowded business section, where traffic blocks are frequent. Many of the scheduled stops, also, require it to go into alleys where there are often long delays. In spite of these handicaps, the truck covers 45 miles per day, getting 8.81 miles on a gallon of gasolene.

The operating cost of this machine is $11.64 per day, including the driver's salary, interest, depreciation, taxes, license, insurance, garage rent, etc.

It would take at least 4 single wagons to do the work performed by this vehicle. A very conservative figure on the cost of operating a single wagon is $7.50 per day —many firms in Chicago and New York are paying as high as $10 per day. But even at $7.50 per day the 4 wagons would cost us $30 per day, or $18 more than our truck. So the truck is actually saving us $18 a day, or $5,500 a year. As the total original cost of the truck was $2,440, the machine paid for itself twice the first year we had it.

Now, $5,500 a year is 5½ per cent. interest on $100,000. Since our truck more than paid for itself the first year, and certainly is good for 5 years altogether, you might say it is paying us 5½ per cent. interest on $100,000 for a period of 4 years. In other words, our truck, at an original investment of $2,500, is returning us the same profit that we would receive from an investment of $100,000 in 5½ per cent. bonds that had 4 years to run.

In these days a single horse rig, including horse, wagon and harness, would cost us at least $600; 4 horses and outfits would cost $2,400, or practically the same as the original cost of our 1-ton truck.

Not only do the 4 horse rigs actually cost over twice as much as one truck to operate, but there is an additional expense in routing 4 drivers instead of one. The actual money saving here is difficult to estimate; but it is obvious that the time saved in handling one driver instead of four helps materially to reduce the chance of errors in the shipping room and insures prompter and better service for our customers.

During the last two years our business has expanded rapidly, and it is continuing to grow. If we were using horse delivery we should have to add a wagon a year, and break in a new driver to our work. Our truck handles easily all our deliveries, and still is not working at full capacity. And we feel it gives us much better prestige with the trade to be using a fast motor truck rather than four poky 1-horse wagons.

Our driver likes to operate the truck. As a consequence he takes pride in his machine and handles it efficiently. He makes all minor adjustments himself, keeps the machine in good condition and is interested in cutting necessary cost to a minimum. We pay him a 5 per cent. bonus in addition to the regular union scale of $35 per week.

In view of our experience, I wonder how any firm can afford to continue using horses for city delivery. Cutting operating costs by substituting motor trucks for horses is a sure way of increasing profits. I believe most of the firms still using horses are fooling themselves because they don't know their costs.

ANALYSIS OF THE PERFORMANCE AND OPERATING COST OF A 1-TON MOTOR TRUCK IN THE SERVICE OF THE IMPERIAL JAPANNING & ENAMELING WORKS, CHICAGO, FOR THE YEAR ENDED MAY 1, 1920.

Performance.

Days in operation during period	305
Round trips made during period	1,830
Miles traveled during period	13,725
Gallons of fuel used during period	1,559
Gallons of oil used during period	76.5
Average number of round trips made daily	6
Average number of miles traveled daily	45
Average number of miles traveled per gallon of fuel	8.8
Average number of miles traveled per gallon of oil	176.0

Cost.

	For the Period.	Per Mile.
Fixed Expense:		
Interest on $2,440.00 (chassis $2,250.00, body $175.00, freight $15.00) @ 6%	$ 87.84	
Taxes	30.00	
License	10.00	
Garage	210.00	
Insurance	125.00	
Driver's wages @ $35.00 per week	1,820.00	
Total fixed expense	$2,282.84	16.63c
Variable Expense:		
Depreciation, based on $2,274.50 ($2,440.00 less $165.50 for tires) over estimated 75,000-mile life	$ 414.87	3.03c
Maintenance and repair (actual $38.00) estimated at	190.00	1.38
Tires, based on $165.50 over actual 10,000-mile life	227.83	1.66
Fuel, 1,559 gallons gasolene @ 25c	389.75	2.84
Oil, 76.5 gallons @ 60c	45.90	.33
Total variable expense	$1,268.34	9.24c
Total cost	3,551.18	25.87c

Cost per day, 45 miles @ 25.87c, $11.64.

Road Train Replaces Railroad

How motor trucks and trailers come immediately to the aid of the public when railroads cease to function has just been demonstrated in California. The Ocean Shore Railway from San Francisco to Half Moon Bay failed financially and trains stopped running, leaving shippers along the line without means of getting their products to market. An investigation started by the San Francisco "Ship-by-Truck" Bureau and the California Transfer & Storage Association showed that from September to January 8 to 10 carloads of artichokes per day were shipped to eastern markets. At a conference of interested parties it was agreed to put two 5-ton trucks and two 5-ton trailers in service the following day to begin hauling artichokes from the packing-house about midway of the rail line to San Francisco for shipment east. Owing to congestion of freight at the railway sheds, it was believed that within a week from 10 to 15 trucks and an equal number of trailers would be carrying the freight formerly hauled by the railroad. The State Railroad Commission was willing to grant a franchise for the truck line pending decision whether the railroad would be refinanced or suspend permanently. The truck interests were sure of coöperation of the railroad in the use of its sheds, telephone and yard masters. Besides artichokes there are large quantities of hides, fish, fertilizer and gravel to be hauled sufficient to keep the trucks and trailers busy from May to January.

French Car Prices Drop

The price of French light automobiles, corresponding to American Fords, has been reduced 25 per cent. in order to compete with American-made cars and American prices. Aid has been given by the authorities by lowering the price of coke and of steel, that of the latter from 20 to 25 per cent. A general reduction in the cost of raw materials is expected to follow, which will avoid forbidding importation of American cars or imposition of a prohibitive import tax.

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Street-Railways and Motor 'Buses

By GEORGE M. GRAHAM
Vice-President, Pierce-Arrow Motor Car Company

THE interests of every kind of transportation are common, not opposed, and there is a place for all. This is a truth we have been slow to assimilate. Mistaken competition has divided us. It has been largely a case of "dog eat dog." Steam railroads took freight from the canals. The electric trolley went after the freight and passenger traffic of the steam railway, and the motor vehicle has competed with all. The result has been an unscientific scramble in which the best interests of the public have not always been served. Relief will not come till business men allot their transportation scientifically, so that each medium may discharge the task to which it is best suited.

In examining the big question of whether the motor vehicle can compete with the electric trolley, can supplant it, or can economically and profitably supplement it, there is difficulty in finding a specific "yes" or "no." As in most things of life, no decision can be absolute. Trolleys are neither all good nor all bad. Motor 'buses are neither all good nor all bad. The task is to find a place for both.

No one will deny that the fortunes of the electric trolley railway are at low ebb. The recent report of the Federal Electric Railways Commission points out that on May 31, 1919, there were in receivership 62 companies with a mileage of 5,912; that 60 companies had junked 534 miles of railway; and that 38 companies had ceased to operate 257 miles of track. Between that date and July 1, 1920—a matter of 13 months—56 additional companies, with a mileage of 1,908, went into receivership. The same report says that the electric railway industry is inefficient and without credit. It blames this condition on early financial mismanagement, increasing costs and inadequate fares.

No motor vehicle manufacturer has ever said that electric trolleys could everywhere be supplanted by the motor vehicle. I refute, with full authority of the industry, a contention so preposterous. The electric railways' stupendous passenger figures prove the essentiality of the trolley, since in 1917, over 30,000 miles of urban electric railway and 18,000 miles of interurban trackage, electric railways carried 11,304,000,000 revenue passengers and 3,202,000,000 transfer passengers, as against 1,066,000,000 passengers carried by the steam railroads, a matter of more than 13 times as many. The trolley overwhelmingly predominates in carrying workers to their offices, stores and factories. Despite all handicaps this use is increasing. It has jumped from 62 revenue rides per inhabitant in 1902 to 108 in 1917. We should not permit the trolley to be dealt with unjustly. The price the country paid for a narrow steam railway policy is a disastrous reality. We have corrected that injustice. We should not repeat the error with the electric railroad. Nor should it be sacrificed to the uncontrolled "jitney" 'bus. The trolley company has a responsibility to all the community. It must run or lose its franchise.

'Bus operators, as a rule, are irresponsible for damages to property and liability to persons. They can get a permit almost without investigation as to character or as to the need of the 'bus service. 'Buses may start running at 7 o'clock in the morning, where the trolley starts at 5. They may stop at noon, but the trolley continues uninterrupted. During the "rush" hours, the 'bus is permitted to reap a harvest by driving up to terminals, waiting-rooms, or corners, and taking from the trolley the cream of its profit—the short-haul patron. There are very few laws or ordinances regulating the operation of 'buses, whereas in some cities trolleys are subject to a fine of as much as $100 if they inadvertently fail to pick up a passenger. With all these facts in mind, and in view of the obligation of a public carrier to give a complete service, the motor 'bus can never eliminate the trolley.

No matter where the research is made, it will be found that the public is eager to use the 'bus. There are 15 electric railways operating this kind of service as part of the properties of the British Traction Company. These carried in one year, 19,000,000 passengers on 400 'buses. The London General Omnibus Company, chief of all 'bus concerns, in 1918 carried 682,000,000 passengers against 690,000,000 on the underground and 992,000,000 on the street-railways. Paris has 1,000 highly profitable motor 'buses. Birmingham, Liverpool, Manchester and Sheffield have all found important applications for the motor 'bus.

THE most important 'bus company in the United States is the Fifth Avenue Coach Company of New York, which for the fiscal year ending June 30, 1919, carried 36,488,447 passengers a distance of 8,022,026 miles in 279 'buses. No city has had a more amazing demonstration of the success of the "jitney" 'bus than Newark, New Jersey. This traffic grew in 1919 to 36,895,010 passengers, being helped by a 2-cent increase in fare on the street-railway and the elimination of transfers. The Bridgeport situation is well known to the public. Here the use of the 'bus was an emergency measure during a quarrel with the street-railway companies. The application was not scientific. The 'buses ran when their owners felt so inclined. The results were so unsatisfactory that the trolleys were returned to service with a 7-cent fare on September 20 last. But the 'bus service was largely used, as high as 80,000 passengers being carried per day.

The San Francisco Municipal Railway organized four 'bus routes, two of which were discontinued. There was here no test of profit, since the enterprise was supported by the community, but there was evidence of a marked public appreciation.

The Pacific Gas & Electric Company authorized several 'bus services, both urban and interurban, in such cities as Los Angeles, Arlington Heights, Fresno and Sacramento. Other 'bus services have been organized in Dubuque, Fort Wayne and Rockford, Illinois.

THE western part of our country has proved the value of the motor stage line, because at low investment it is by this means possible to move a large volume of passengers on schedule time in sections from 60 to 500 miles remote from the principal cities. The experience in all these points shows that the public is ready to welcome the 'bus.

The report of the Federal Electric Railways Commission, already referred to, recognizes the "jitney" and the motor 'bus as factors, and recommends that these forms of conveyance, when operated as public carriers, should properly be subject to equivalent regulation. This is in line with the expressed belief that, if there is to be a test of the two means of transportation, it should be conducted under the same conditions. Either the motor vehicle should be compelled to assume the burden of taxes, of imposts such as street-paving, street-cleaning and snow-removal, of service requirements as to routes, schedules and equipment, or the electric railways should be relieved of these burdens.

There is a logic and an equity about this viewpoint, which is hardly to be disputed. An unassailable principle has been enunciated, but in practical workout there are other factors to be considered. The motor industry is not immune from levies. In special taxes and license fees it pays $225,000,000 yearly to city, state and nation. This is more than any yearly appropriation for road-building under the federal aid law.

Motor 'buses should bear their share of the taxes and other obligations, but the regulations imposed upon them should be equitable, not punitive, and should not be planned to protect monopolies that are defaulting in their obligations. The question of which can serve the public more cheaply is naturally important in any effort to determine the place of electric trolley and motor 'bus.

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The inability of the Chicago Motor Bus Company to pay, despite a liberal public patronage, seems to result from a combination of poor management and inadequate resources. Its maintenance costs are higher than those of the Fifth Avenue Coach Company, the figures being 11.92 against 3.96 cents per 'bus-mile.

The Baltimore operation, an auxiliary to the United Railway & Electric Company, showed for the year 1918, a deficit of $10,682. Here, with trolleys and 'buses operated by the same company, costs were shown to be almost identical,—44.93 cents per 'bus-mile as against 44.21 cents per car-mile. These figures are not typical as they reflect unusually heavy taxation.

Commissioner of Plants and Structures Grover A. Whalen, of New York, argues for municipal ownership of passenger 'buses that the city can purchase 100 motor 'buses with parts and garage equipment for $570,000. Fixed charges, including insurance, interest, depreciation and 220 employees in one year, will cost $635,000. With 92 'buses in operation and 8 in reserve, 10 lines can be operated at a cost per day of fixed charges of $1,740. Add to this cost of gasolene, oil and tires at $683.20, and the total amounts to $2,423.20 per day.

On 60,000 passengers at 5-cents per fare there would be an income of $3,000 per day, and it would indicate a profit of $576.80, or an annual profit of $210,532. Here the main economy of the 'bus is due to its small capital charge. Twenty-five miles of 'bus line can be equipped at an average cost of $22,800 per mile, whereas the surface lines of the New York Railways Company are capitalized at $503,374.32 per mile. This calculation has not yet been worked out in actual practice.

RECOGNIZING that actual figures vary widely according to conditions, I have sought to make a comparison that would be applicable to the average American city of more than 250,000 population. It is based on published reports of trolley costs, and known figures of motor operation.

Let it be supposed that an electric trolley company is confronted with the necessity of providing service in a suburb, whose most remote point is 3 miles away from the present extreme of the line. The requirements involved are:

Line on city paved street, 15-minute headway to be furnished, 1,500 passengers per day, 16-hour service, 365 days per year, level territory, single track line, 10-cent fare.

	Street Railway.	Motor 'Bus Line.
Investment required	$200,000	$35,000
Number of vehicles	3	3*
Speed (m. p. h.)	10	12
Operators per vehicle	2	1
Passenger capacity per vehicle	45	25
Passengers per trip per vehicle	12	12
Anrual operating expense per mile	17,999	17,742
Operating expense per vehicle-mile	36.3c	37.9c
Vehicle-miles operated	140,160	140,160
Revenue per vehicle-mile	38.9c	38.9c
Cost per passenger	9.19c	9.72c
Net revenue per passenger	0.81c	0.28c
Total cost per vehicle-day	$137.97	$145.82
Net revenue per vehicle-day	12.03	4.18
Net revenue per vehicle-year	4,390.95	1,525.70
Interest on the investment	2.2%	4.3%

*Plus 1 reserve.

Which is better—to extend the trolley tracks or establish a 'bus line? Perhaps the figures appended will help to solve the problem.

Should we extend the above proposed extension 1 mile and still maintain the 15-minute service, it would involve $65,000 additional capital for the trolley line against only $6,000 for the 'bus line. Obviously the smaller the capital expenditure, the greater the return will be, provided the revenue remains constant.

ANOTHER angle to be considered is the increase of service after a project has been installed. Suppose in the above case the headway is reduced. This would involve the operation of aditional vehicles and the handling of more passengers.

	Minutes Headway.				
	15	10	5	3	2
Cars required	3	4	8	12	18
'Buses required	2	3	6	8	12

This table gives a clear idea of how the number of vehicles increases as the service is increased. Of course, it costs the railway more to place each additional car in service than to place a 'bus in service. The car costs $15,000 against a 'bus at $5,500 to $6,000.

In many places successful, independent, suburban motor lines are already in operation. The Wilkes-Barre line operates 49 'buses, 4 miles in the city and 7 miles interurban. The vehicles operate on a 7-minute schedule, 1 man to a 'bus, as against a 15-minute trolley schedule, 2 men to a car.

The Suburban Transit Company, Plainfield, New Jersey, a subsidiary of the Spicer Manufacturing Corporation, operates 13 motor 'buses ranging from 1-ton to 5-ton, with a passenger capacity of from 22 to 75. Under its contract with the Spicer corporation the company agrees to furnish, for those Spicer employees who live in Plainfield, free transportation to and from the plant. This line is operated at cost, a monthly statement being sent to the Spicer company. For public service the company operates a line from Plainfield to South Plainfield, a distance of 3½ miles, for which a 10-cent fare is charged. Other trucks are available on arrangement for picnics, parties, tours, etc. The operating cost varies from 40 to 80 cents per mile, average being 45 to 60 cents, depending upon operating conditions.

The experiences of the Fifth Avenue Coach Company show that it could not operate on a 5-cent fare basis, even with its double-decked 45-passenger 'bus. No one denies that this system is most efficiently run, yet the operating cost, exclusive of taxes, was 29.03 cents per 'bus-mile.

Many instances here given argue against the 'bus as a competitor, but the service rendered by the Fay Motor 'Bus Company at Rockford, Illinois, points the contrary. On the 'buses of this company 10-cent fares are charged as against 7-cent fares by the trolley, and workmen have shown a quick willingness to pay the extra fare in order to travel via the intelligently figured routes of the Fay company. It is claimed that the Fay 'buses operate at an average of 16 cents per 'bus-mile as against 19.38 cents for the 1-man trolley safety car. Each Fay 'bus seats from 12 to 19 passengers. The urban lines extend 4 miles from the center of the city, and the interurban lines 37 miles from Rockford. Outside the city limits the fare is 4 cents per mile.

We have here varied views. It is well to weigh them soberly. Many of the excessive claims for the motor 'bus develop at times of tension between trolley companies and the public. There is no doubt a general public feeling that motor 'buses could well be applied to both urban and suburban transportation. The important factor in city transportation is freedom from traffic congestion. This is the great advantage of the Fifth Avenue 'buses, which load and unload passengers at the curb, keeping the center of the highway free for private vehicles. There is also a safety factor here, only 23 accidents having occurred on this system in 1919, of which only one proved fatal. New York 'bus lines have cut down the running time between points from 20 to 50 per cent. If a trolley breaks down, the line is tied up. If a 'bus breaks down the next 'bus swings up along side, takes the passengers from the disabled vehicle, and goes on its way. If a street is closed by an accident, a fire, a parade, the trolley line is tied up but the 'bus swings around the block.

At the present time the Broadway Association, composed of firms with stores, offices, etc., in the neighborhood of Broadway and on Broadway, is circulating a petition asking for the elimination of trolley tracks from Broadway and the substitution of motor 'buses. This does not mean that there is a desire for the unrestricted and competitive use of motor 'buses to the disadvantage of the established trolley system. Most of the New York civic associations, like the Merchants' Association, do not sympathize with the public ownership movement, and have strongly protested against any effort to deal unjustly with existing transportation facilities.

OF the three ways that 'buses can be operated—first by the trolley companies, second by independent companies, and third through municipal ownership—I consider the last-named the least desirable. The events of the last four years have changed many of our ideas, and we no longer think of government ownership as a panacea. My belief is that motor 'buses should not be allowed to compete with established trolley lines. Duplicate transportation facilities never work out satisfactorily or permanently. Furthermore, trolley companies are entitled to protection on account of their capital invested.

There are many benefits to be gained by having the electric companies operate 'buses in conjunction with their lines. 'Buses can give service on streets parallel to congested trolley tracks and thus, not only handle passengers on the parallel streets, but make possible a faster trolley service. The 'bus could offer also a short cut between factories and principal residential districts, thus avoiding the transfer of large masses of "rush-hour" riders at a few overcrowded points. The 'bus would

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offer the possibility of a flexible corps of vehicles to help in emergencies.

The problem among the smaller cities is very intelligently dealt with by the Waterbury, Connecticut, Chamber of Commerce, which, after an investigation, recommends:

(1) That the trolley must be given the exclusive business on the streets now occupied by its track.

(2) That "jitneys" and motor 'buses shall be permitted to operate only on streets not now served by the trolleys.

(3) If, with such advantages, the trolley can not or does not provide adequate service at reasonable rates, provision shall be made to allow a supplementary use of motor vehicles.

Wherever a trolley company can substitute motor 'bus equipment for trolleys, it should do so, but the change should be gradual. This would to a considerable extent retard an over rapid depreciation, and would make it possible to supply less costly facilities for those that wear out. But in the last analysis the trolley company should treat its inventories just as a manufacturer treats machinery which he finds out of date, and for which he substitutes new equipment, even at a loss, remembering that that which is economically in error can not be artificially kept alive.

One of the greatest problems that now confronts the electric trolley company is the need of giving service into newly opened sections. This is a constant cause of conflict. A new suburb develops. Its residents demand service. The trolley company investigates. It finds that the utmost posible patronage to be gained will not permit an even break on the costs of installing a new line. Either it declines to add a spur to its existing trackage and thereby increases the public resentment against itself, or it establishes such a line and accepts a loss.

Either of these alternatives involves an error. There is a better means. The motor 'bus affords the answer, and I should think that at a time of restricted credit, when the difficulty of selling electric railways securities constitutes such a problem, street-railway companies would be glad to save capital investment by using the motor 'bus.

It has been argued as an objection to this plan that motor 'buses could not in winter weather, and especially when handicapped by snows, fulfill their schedules. Experience has shown that the 'bus fares little worse under such conditions than the trolley. The trolley is confined to its own tracks and its own streets, and must deal with the drifts that there develop, whereas the 'bus is free to detour where the snow is lighter. . . .

So far I have looked at the subject largely from the standpoint of money making, but there is still another factor that is of most vital importance. I believe that the greatest gain to the electric trolley company in the application of 'buses would not be in larger cash receipts, but in an increase of good-will.

I have always felt that the electric railway magnate does not sufficiently understand his customer, the general public. He is puzzled why public sympathy is generally with the striker, no matter how unreasonable the latter may be. He knows he has many excuses and explanations for inadequate service, but these are subjects that do not interest the average street-car user.

The person who waits for a car ten minutes on a cold morning and is submitted to inconvenience, suffering and in some cases actual jeopardy of health and life itself, is not interested in questions of financing, labor or fare rates. He wants a car on schedule, and when he fails to get it, his anger concentrates against the company.

I have often thought that a great gain could be made in public esteem by having a squadron of emergency vehicles to handle the rush. In most cases additional street-cars, even if available, can not be operated on already overcrowded tracks, but I have never been able to understand why there could not be fleets of motor 'buses running over the congested routes during the morning and evening hours. Some of these could run on the same street. Some could run on parallel streets. I should call them "Good-Will" service 'buses, and should make clear in newspaper advertising that they had been applied in an effort to win the friendship of the public.

The 'buses could be routed from day to day as occasion demanded. They could be used in the afternoon to handle baseball crowds, and in the mornings to take women shoppers down town. They could be applied to special picnics, the hauling of circus crowds and various similar functions. They could carry their good-will service into the suburbs.

There is no great riddle as to what these 'buses would cost. All the items of expense are definitely known. Against these costs the trolley official could set the revenues to be obtained at a rate of fare larger than the trolley fare. It is possible that the objection may be raised that many trolley franchises do not permit the operation of motor 'buses, but I question very gravely whether any municipal body or public utilities commission would prevent an electric-railway company from installing new facilities aimed to give a better service to the public.

Toland Made General Sales Manager of Hare's Trucks

Vice-president Henry Lansdale, in charge of distribution for Hare's Motors, Inc., has announced the appointment of William G. Toland as general truck sales manager. In 1917 Mr. Toland joined the truck sales organization of the Packard Motor Car Company of New York, of which E. S. Hare was then president, and was placed in charge of truck sales for the Springfield, Massachusetts, branch of that company. His success led to his promotion to be truck sales manager for the New England territory and to his subsequent transfer to the larger field of the New Jersey district.

New Rainier Models

The Rainier Motor Corporation announces numerous improvements in its new 1921 models which are now ready:

In the 1-ton, now known as the Model R-19, the wheel-base has been increased to 133 inches, the frame lengthened so that the loading space is 9 feet, 6 inches behind the seat and the side rails are now 5 inches deep. The tire size is enlarged to 34x4 rear and 34x3 front. Other improvements include heavier steering-gear, new style pedals and control, and a larger radiator of different shape, greatly enhancing the appearance. The chassis price remains $2,350.

The 1½-ton is now called the Model R-16, and is considerably larger than formerly. The wheel-base has been lengthened to 147 inches, resulting in greater loading space—10 feet, 6 inches behind the seat. The frame side rails are heavier and their depth has been increased to 6 inches. The motor is now the Continental 3¾ model "N" instead of the 3½ formerly used, and the Brown-Lipe Model 30 transmission has been substituted for the "25." Other changes are heavier steering-gear of Ross manufacture, heavier propeller-shaft with three universal joints and a center ball bearing, new style pedals and control, and a new type of radiator, resulting in a better appearance. The tire size has been increased to 34x5 rear, 34x3½ front. The price is $2,600 instead of $2,450 as before.

The 2-ton chassis Model R-18 remains practically as heretofore except that it has a larger motor—Continental 4⅛x5¼—and the model 35 Brown-Lipe transmission as well as the new style radiator. The ¾-ton Model R-11 will be continued without change except that it now has 35x5 cord tires as standard equipment. It has Continental motor, Brown-Lipe clutch and transmission and Timken worm-driven rear axle, 125-inch wheel-base. The chassis price is $2,150.

Deliveries will commence at once on the new 3½-ton model whose specifications are new style Continental motor 4½x6, Brown-Lipe clutch and 4-speed transmission model 60, Timken worm-driven rear axle, 170-inch wheel-base, 8-inch frame, Ross steering-gear, Spicer joints and magneto ignition; rear tires 36x5 dual, front 36x5 single. The chassis price is $4,500.

An additional model—2½-ton capacity—is in course of production, on which delieveries wil be made about January 1. It will have Continental motor 4⅛x5¼, Brown-Lipe 3-speed transmission, Ross steering-gear, worm-driven rear axle, rear tires 34x7, front 34x5. This chassis will be made in two wheel-bases, 156 and 170 inches. The chassis price will be $3,400.

London Motor Statistics

According to the latest registration figures available, there were on September 30 of this year 22,554 motor trucks in the city of London, England; 147,617 light motor cars (including some parcel vans), and 86,519 motorcycles. Twelve hundred and fifteen new trucks were placed in service between July 1 and the date named.

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Successful Dealers and Their Plants

XXVII

SCOTT MOTOR TRUCK COMPANY, INC., BROOKLYN

THE high mortality rate among truck dealers is one of the regrettable things in the industry. It has come to such a stage that when a dealer maintains the same line for several consecutive years he draws the attention of others to him, for everyone wants to know how he did it. "Scott of Brooklyn" has handled Rainier trucks for two years and there is every indication that he will weather the merciless process of elimination for years to come. He is one of the successful dealers who has forged ahead without having done the usual unusual thing. Every month Scott has been in business has shown an increase in the sale of trucks over the preceding month. Yet he was questioned for an hour the other day without having brought to light any secret of peculiar methods of doing business.

"We are here to sell trucks to people who want them," said Scott. "Our methods are the methods of any successful dealer. We have simply put our business on a systematic basis and by square deals have won and kept the respect of truck buyers."

Walter A. Scott is president of the Scott Motor Truck Company, Inc., of Brooklyn, which company he organized two years ago. He was one of the pioneers in truck sales, having started the first agency for the Republic in New York City in 1913. Several years later he organized the Stewart Distributing Company, having started the sale of that truck in New York territory. Previous to starting the agency for the Republic, Mr. Scott was sales manager of the Prest-O-Lite Company for seven years. He is now applying the experience of 13 years in the automotive line to the sale of Rainier trucks in Brooklyn and has succeeded through sheer force of personality and square dealing in putting them in a position of prominence.

SOME SCOTT MAXIMS

You can drive a horse to water but you can't make him drink. You can drive your salesmen, but their best efforts come from encouragement.

No sale should be considered complete until the customer is satisfied.

A business to succeed must share its success with its workers. Changing salesmen often doesn't pay.

Your business depends on your customers' confidence. Don't make any promises you can't fulfill.

"Service First" is the creed by which Mr. Scott does business. It has been said so often that "a satisfied customer is the best advertisement" that no one attaches much importance to it any more. As a matter of fact, merchants in every line of business are saying it because it was at one time a clever phrase. But in the case of Scott it is merely another way of saying "Service First." Scott has an unusual way of keeping his customers satisfied — unusual because so few dealers are willing to stand the expense of doing it. Here is his method:

Two experienced truck men are employed in calling on old and new customers for periodical inspections of their trucks. They make their calls in a service truck and are able to visit at least seven customers daily. They carry oil and grease with them which they supply where needed without cost to the customer. These inspectors make their calls about once a month. They examine the truck carefully and make suggestions both to the owner and driver where neglect or ignorance is shown in handling the truck.

These suggestions are written on an inspection sheet in duplicate. One is turned over to the owner and the other to Scott personally. If the inspector finds on his second visit a month later that his recommendations are disregarded, this fact is reported to Scott, who writes a personal letter calling attention to the importance of making the proper adjustments in order to lengthen the life of the truck. This usually brings the desired results, for Scott is just as anxious to keep his Rainier trucks in the pink of condition as the customer, and sometimes more so. Another thing accomplished by the inspection, and which could not be effectually accomplished in any other way, is that the driver is made to know that his treatment of the truck entrusted to his care is being carefully watched.

The service, however, does not stop there, for the salesman who makes the sale is required to call on his customer every month or so. He is also required to report on the condition of the truck as expressed by the customer and also the latter's opinion of the service rendered. In the card reproduced the customer's opinion about service was "very poor." Scott examines every report closely when it comes in. When he saw this one he didn't go "off the handle" and berate the customer, the service manager and everybody else, he simply called in Superintendent Barwell and put the matter up to him. The trouble, whatever it happened to be, was quickly remedied.

Some sales managers take the stand that salesmen are of a "different" kind of people, and so require a different kind of treatment.

"Letting your salesmen ramble about town is bad business," said Scott. "I make it a point to keep in touch with all my men at all times and am particularly careful about their reports. I have divided Brook-

The home of the Rainier dealer in Brooklyn.

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lyn into two sections of six zones each. Each section is in charge of a sales manager whose duty is to help his men make and close sales. The closing, of course, is the most important and I have been very careful to delegate to this work men of force and personality who are able to clinch the deal. These men are R. E. Clauder and Wm. E. Barber, long associated with me in the work.

"I have twelve salesmen always 'on the go.' They have their own zones to work, and they are enabled to comb their territory thoroughly. This system also prevents one man interfering with another's business. Should any question arise as to who is to be given credit for a sale where it was made in a competing territory, the salesman furnishing the lead is given 2 per cent. for his part of the deal.

"Formerly we had an open territory arrangement, but this caused a lot of disputes about 'ownership' of 'prospects,' not saying anything about the inconvenience it caused the 'prospects.'

"I also have an invariable rule that all salesmen must be on hand at 8:30 in the morning sharp and be out on the street by 9 o'clock. The trouble with most salesmen is that they are allowed too many privileges in the matter of time. They easily get out of control and the dealer wonders why business is not up to the mark. Salesmen need discipline, and he is a small man who imagines it imposes any undue hardship."

FIRMS NAME P. astarbi & Co. Date Interviewed 12/30/19
Address 16 Hamilton ave. Party Interviewed M. astarbi
Model Truck R-11 — Cont. Has It Been Photographed No
Remarks About Truck Very good now
Remarks About Service Very Poor
Where is Truck sent for Repairs formerly to L.I. City — Lee now
When will they be in market for another Truck 2
O.K.P. Salesman's Signature

On cards such as this are kept records of customer satisfaction and grief.

Original Service File

CONDITIONS FOUND
MONTHLY SERVICE INSPECTION
SCOTT MOTOR TRUCK CO.

Model R-S
Owner Astarbi & Co.
Mileage
Body Type Panel
Owners Number 1020

Previous Inspection 7/19/20
Address Brooklyn

Owners Copy

AG = ATTENTION GIVEN AR = ATTENTION REQUIRED SN = SHOWS NEGLECT

Motor Cooling	Bearings	Pistons –	Valves	Compression
	Radiator Leaks	Fan	Inlet	Outlet
Ignition	Timing	Points	Plugs	Wiring
Carburetor	Adjustment	Choke	Primer	Jets
Fuel Supply	Vacuum	Suction	Strainer	Line
Governor	Setting	Operation	Seal	
Lubrication	Amount	Quality	Make	Pump
Control	Throttle	Accelerator		
Clutch	Adjustment	Bearing	Action	Plates
	Lubrication			
Transmission	Bearings	Gears	Shift Lever	Oil Retainers
	Lubrication S.N.	Amount	Grade	
Universals	Front			Lubrication S.N.
	Rear			"
Differential	Bearings S.N.	Worm & Gear	Shafts	Adjustment
	Lubrication S.N.	Amount	Grade	Gears
Brakes	Service	Adjustment	Linings	Controls
	Hand	"		
Wheels F	Tight	Bearings AR	Alignment	Lubrication
R	"	"	"	"
Steering	Post	Wheel	Case	Rods
	Arms	Knuckles	Pins	Lubrication
Springs	Shackles	Clips AR	Pads	Lubrication
Axles	Front			
	Rear			
Body	Bolts	Pads	Braces	
Tires	Front	Condition	Pressure	Make
	Rear	"	"	"

Attention Given
Attention Required Right rear loose in frame — Right rear wheel hub loose
Date Aug 23/20 Owner Inspector Philip Jones

The inspection sheet used by Scott of Brooklyn.

LeMans Fuel Tests

Nowhere in the world has fuel economy to be so closely considered as in France, where the average price of gasolene stands at $2.40 per gallon. Because of this local situation, the important fuel consumption test, held by the Automobile Club of LeMans, attracted an immense amount of attention, and results were obtained which will appear surprising to those who have not been under the necessity of giving serious consideration to fuel economy. Eighty vehicles of diversified types took part, and were given a certain amount of fuel, based on their piston displacement, weight, and type of body. The greatest distance covered was 90 miles on one gallon of benzol. Although this performance was made by a small 2-seater, it is remarkable that any 4-wheeled car should have been able to travel such a distance on such a small amount of fuel.

A few trucks took part in the test, and in this class the winner was a 4-cylinder machine on pneumatic tires having a total weight of 7,200 pounds, which traveled 14 miles to the gallon on a mixture of 60 per cent. benzol, and 40 per cent. kerosene. This truck had been bought by its owner from the French army, and was far from being new. Another private owner entered a 15-20 horse-power touring car, also bought from the army stocks, and attached a trailer to it, the weight of the two being 5,350 pounds. Despite this handicap, and the fact that the trailer was run for 50 miles without a tire on one of its wheels, the fuel consumption was at the very economical rate of 22.7 miles to the Imperial gallon (1.2 American gallon).

New York City's Trucks and Trailers

Motor truck and trailer licenses in New York City for the period between February 1 and August 1 have exceeded the totals for 1919. In that time 65,000 licenses were issued for motor trucks and 1,100 for trailers, while during all 1919 the corresponding figures were only 52,821 and 992 respectively.

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Truck Service Important Factor in Trade

By W. WESTWATER,
Westwater Supply Company, Columbus, Ohio

WHEN one of our good customers 'phones in a rush order, we always feel safe in promising him immediate delivery, because we know we can depend on our truck to get there on time. We handle all kinds of plumbers' and builders' supplies, selling to these trades all over the city. While most of this material is contracted for in advance, with plenty of time for delivery, there are frequent calls for odd lots to meet an emergency. In such a case it is 'up to' us to make prompt delivery or lose the customer's good will.

When an especially good customer calls and wants something in a hurry, we never disappoint him. Even if he needs only a few extra feet of pipe, and we have to make a special trip with it, we send the truck out at once. That one trip will cost us quite a bit of money, but we can well afford to make it in order to hold the man's business. Our promptness may save his gang several hours which might be lost if they had to wait for that pipe. And he won't forget that we helped him out in a pinch.

In one special case we hauled 1,500 feet of 2-inch galvanized pipe out to a job on the heights near the asylum. This amount of pipe is very heavy and shifty, and makes an unwieldy load. But the truck got it there in good time without any trouble. Many of our jobs require delivery in places where the ground is soft or very uneven, but the machine always makes it.

Our truck is also used regularly for hauling material from our warehouse to our plant. The warehouse is situated on the railroad. Incoming freight shipments are received in carload lots, and unloaded directly into the warehouse. From there the truck hauls the material to our plant as needed. Practically everything we handle is heavy, and much of it is unwieldy as well.

We bought our truck—a 2½-ton Service—in June, 1919, so it has been operating only a little over a year. There have been absolutely no repairs on it. During the 12 months ended July 1, 1920, the truck worked 251 days. Its speedometer showed it had traveled 5,608 miles, an average of 22.34 miles per day. This low mileage, of course, is due to the fact that there were 50 days when there was no work at all for the truck to do, and that practically all its trips were short runs about the city.

This truck is costing us $12.26 per day to operate. This includes $5.00 a day for driver's wages, and an estimated $25.00 a year for maintenance and repairs. Our cost per mile, 54.89 cents, is high, because of our low mileage.

Some method of hauling and delivering is absolutely necessary for carrying on our business. It would cost us more to keep a team than the truck is costing us, because horses eat whether they are working or not. But no team could begin to handle our special delivery jobs the way the truck does. If it did nothing but keep our customers satisfied, it would be worth much more than it is costing us.

Do Trucks Outlive Horses?

A large eastern transfer company, which has operated horse-drawn haulage units for more than fifty years and motor-driven units of both gasolene and electric types for nearly seventeen years, offers some interesting figures on the relative longevity of horses and machines in approximately similar service. Since 1867, when the business was founded, the number of horses in use has increased from 2 in the first year to 5 in 1877, to 8 in 1887, to 18 in 1897, to 35 in 1907, and was then reduced to 4 in 1917 through the introduction of motor trucks begun in 1904. The fleet of machines has grown steadily since that time and now numbers 12 units, which perform work that would require, according to the estimates of the management, 62 horses.

The average useful life of the horses, which were discarded after their utility was at an end, is shown by the company's records to have been 8.3 years, no differentiation being made by weight of animal or class of service. The average useful life of 5 motor trucks, which the company has discarded in favor of later models in spite of the fact that they were still good for several years of satisfactory service, was 126,450 miles, the mileage figures being in part calculated and in part the result of accurate daily record. Obviously the averages can not be compared, being expressed in different terms, so the company has made careful estimates of the mileage covered by the horses it has used, and places their average yearly travel at 3,225 miles, giving a total useful life, expressed in terms of time, of 26,772.5 miles. At that point their usefulness was exhausted, while in the case of the trucks, which showed an average useful life of 126,450 miles, the period of uselessness had not yet been reached when they were discarded. The company is, therefore, basing its depreciation charge on an estimated useful life (to itself) of 250,000 miles for all but one of its machines, which is being carried on the books on a 100,000-mile basis.

ANALYSIS OF THE PERFORMANCE AND OPERATING COST OF A 2½-TON MOTOR TRUCK IN THE SERVICE OF THE WESTWATER SUPPLY COMPANY, COLUMBUS, OHIO, FOR THE YEAR ENDED JULY 1, 1920.

Performance.

Days in operation during period	251
Miles traveled during period	5,608
Gallons of fuel used during period	1,121
Gallons of oil used during period	63
Average number of miles traveled daily	22.34
Average number of miles traveled per gallon of fuel	5.0
Average number of miles traveled per gallon of oil	89.0

Cost.

	For the Period.	Per Mile.
Fixed Expense:		
Interest on $3,800 (chassis with cushion wheels) @ 6%	$ 136.80	
License	34.00	
Garage	60.00	
Insurance	147.50	
Driver's wages @ $30.09 per week	1,255.00	
Total fixed expense	$1,633.30	29.12c
Variable Expense:		
Depreciation, based on $3,568.50 ($3,800.00 less $231.50 for tires) over estimated 28,000-mile life.	$ 714.13	12.74c
Maintenance and repair estimated at	250.00	4.46
Tires, based on $231.50 over estimated 11,000-mile life	117.77	2.10
Fuel, 1,121 gallons gasolene @ 29c	325.09	5.80
Oil, 63 gallons @ 60c	37.80	.67
Total variable expense	$1,445.09	25.77c
Total cost	3,088.39	54.89c

Cost per day, 22.34 miles @ 25.77c, $12.26.

Hare's Takes Over Branches

Hare's Motors, Inc., has taken over the direction and management of the retail sales organizations heretofore operated as branches of the Locomobile company. These will hereafter be known as Hare's Motors branches. They are located in New York, Philadelphia, Chicago, San Francisco and Los Angeles. Except in New York and San Francisco, where the Mercer is represented by a special distributer, these branches will handle the full line of Hare's Motors products.

Cleveland Buys Trucks

Cleveland city and county authorities have purchased seven 5-ton motor trucks, four of which are to be equipped with snowplows, for use in snow removal work this winter. A track-laying tractor has been bought by the county, and 57 horse wagons have been added to the city's equipment to carry away snow.

H. E. Heber, who has been identified with the automobile industry for a number of years as sales manager for Harry E. Herndon, Inc., Los Angeles, has made his debut in the truck branch. He has purchased an interest in the FWD Truck Company of Los Angeles, distributers of FWD trucks in southern California, and will take an active part in the work of building up a dealer organization.

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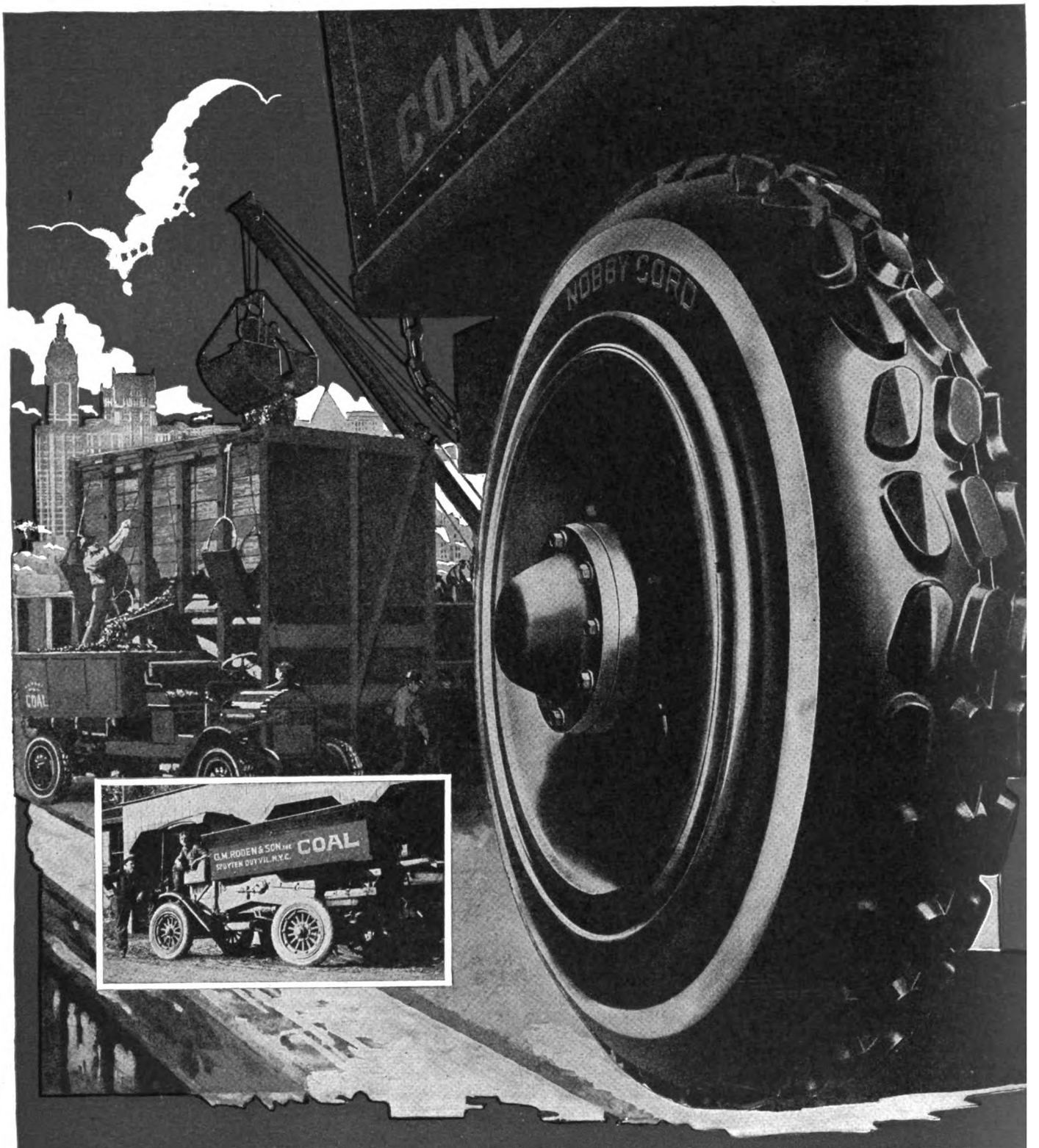

"AFTER seven months experience with a set of 36 x 6 'NOBBY CORD' tires on one of our Autocar coal trucks, we are convinced that they are indispensable," writes G. M. Roden, Spuyten Duyvil, N. Y. "Without even a puncture these tires have averaged 1500 miles per month and reduced gasoline and oil consumption 25%."

For *all* heavy hauling, 'NOBBY CORDS' decrease operating costs and increase delivery speed.

U.S. Pneumatic Truck Tires

United States Rubber Company

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$192,000,000 Road Funds Result of Fall Elections

TOTAL OF $703,800,000 NOW AVAILABLE

Five states voted bond issues aggregating $192,000,000, a sixth passed a constitutional amendment enabling the state legislature to vote bonds to the extent of $50,000,000, and a seventh passed a constitutional enabling act without specifying amounts, at the general election held over the United States November 2. Another, New Jersey, voted $29,000,000 in bonds for the construction of a vehicular tunnel under the Hudson River.

The total thus added to funds appropriated for highway construction and maintenance was $271,000,000 which added to bond issues passed by eight other states since 1918 gives a figure of $543,800,000 from this source of revenue alone. Funds available from federal-aid sources are placed at $160,000,000, while funds obtained from direct levies and other sources of state revenue and county issues or appropriations will probably swell the total so appropriated to more than $1,000,000,000.

Not all this sum is available for expenditure at once, of course, as most highway programs are extended over a period of years, but it is deemed highly significant of the interest of the public in highway transport, that such issues should be passed, and generally speaking by huge majorities, in a year when other aspects of the election are generally all-absorbing in interest.

The full extent of the funds appropriated for highway work is not yet known, nor is it possible yet to ascertain definitely what the projected program of work for 1921 will be. If, however, the line of curve of expenditures since the war should be extended in 1921, an approximate expenditure of $550,000,000 would be arrived at for 1921, a figure which is believed not unreasonable by those in touch with the national road situation.

An interesting phase of the election outcome is that seven of the eight states which acted favorably upon bond issued or enabling acts, did so for the first time in their history, indicating that the bond issue is coming to be an accepted medium of highway finance.

In only four states were bond issue proposals defeated and in each case the defeat is attributed either to purely local conditions or to provisions in the respective measures which failed to meet with the approval of the electorate. Thus, for example, in New Mexico, officials deemed the proposed issue unnecessary.

The most complete sum-up obtainable at the present time and one which, so far as is known, covers all state action, is detailed as follows:

HIGHWAY BOND ISSUES CARRIED.

Missouri	$ 60,000,000
Minnesota	75,000,000
West Virginia	50,000,000
Colorado	5,000,000
Idaho	2,000,000
Total	$192,000,000

ENABLING ACTS PASSED.

Kansas and Virginia, the latter directing the legislature to vote bonds to the extent of $50,000,000.

INCREASED INTEREST PASSED.

A proposal was approved in California increasing interest of highway bonds from 4½ to 6 per cent.

VEHICULAR TUNNEL ISSUE.

An issue of $29,000,000 for the construction of a vehicular tunnel under the Hudson River was approved in New Jersey.

HIGHWAY BOND ISSUES DEFEATED.

Florida	$20,000,000
Montana	15,000,000
Washington	30,000,000
New Mexico	2,000,000

ADMINISTRATION CHANGE DEFEATED.

A proposed change in the form of highway administration in Arizona was lost.

OTHER ISSUES PASSED SINCE 1918.

Alabama	$ 25,000,000
Illinois	60,000,000
Michigan	50,000,000
Pennsylvania	50,000,000
California	40,000,000
Oregon (Of this $2,500,000 voted for Roosevelt Highway is conditional upon similar appropriation from U. S. government, which has not been made)	22,500,000
Maine	10,000,000
South Dakota	4,500,000
Utah	4,000,000
Wyoming	2,800,000
Nevada	1,000,000
Maryland	3,000,000
Total	$272,800,000

GRAND TOTAL STATE BOND ISSUES AND AVAILABLE AID.

Passed November 2, 1920	$271,000,000
Other bills passed since 1918	272,800,000
Available federal aid	160,000,000
	$703,800,000

Anti-Freeze for Autocars

The Autocar Company has issued the following instructions to remind owners of the possible harmful results of freezing weather unless a suitable anti-freezing solution is used in the cooling system. Fill the radiator with water as usual; then drain off 6 quarts of water through the pet-cock in the bottom of the radiator. Then pour 6 quarts of denatured alcohol into the radiator. This solution will prevent freezing down to 5 degrees below zero. Should the temperature fall below this point, replace 7½ quarts of water with an equal amount of alcohol. As the alcohol evaporates faster than water, some must be added daily to keep the mixture up to full strength. The total capacity of cooling system is 18 quarts. If the car is not supplied with an anti-freeze solution and the engine should stop on the road, the water should be drained immediately while making repairs or waiting for assistance. To drain off all the water, open the pet-cocks under each cylinder, at the bottom of the radiator inlet pipes, and under the water pump and radiator, seven pet-cocks in all. See that these pet-cocks are free from obstruction and that the water flows freely.

Travels 100,000 Miles in Eight Years

A ¾-ton White truck in the service of the D. J. Whelan Estate of Troy, New York, bottlers of ginger ale, mineral waters and other beverages, has run more than 100,000 miles since its installation in March, 1912. Its companion, a similar vehicle bought in 1914, has already covered more than 50,000 miles.

Railroads Get Big Revenue from Automotive Industries

FREIGHT OVER $100,000,000 A YEAR

The railroads are well up in the long list of industries that profit from activity in the motor vehicle trade. Both in its own production and through operations incidental to its growth the automobile industry has been a great boon to the long-haul transportation lines. To build automobiles and motor trucks requires heavy materials, steel, wood, metals, fuel, tires—thousands of tons annually. It is on such activities that our railroads thrive.

Although the amount of freight paid by the industry to the railroads can not be stated with accuracy, owing to the diversified and tremendous amount of shipping to and from plants engaged in the manufacture of engines, wheels, bodies, tires and other parts and materials, some indication of the industry as a supporting factor of the rail lines may be had from figures given out by J. S. Marvin, general traffic manager, National Automobile Chamber of Commerce, in connection with shipments of finished automobiles and trucks from the factories.

Based on the number of carload shipments of completely assembled machines recorded in 1919 and allotting them to the several territories in about the proportion of registration, the estimate indicates a total freight bill of $56,000,000. In addition to this it is believed that not less than $10,000,000 was paid on carload shipments of parts forwarded from the main automobile plants to branch plants for assembling, which would increase the total to $66,000,000. Applying the increased freight rates recently authorized by the Interstate Commerce Commission, this sum, it is estimated, will be raised $22,000,000 on an equal volume of shipments during the ensuing year, or a total of $88,000,000.

This figure should exceed $100,000,000 with adequate car supply, because in 1919 no less than 130,000 motor vehicles were delivered to buyers over the highways under their own power to points as far from the factories as 1,000 miles and over. This is equal to 40,000 carloads. But in the first nine months of 1920, so severely did the car shortage strike the motor car industry, 40,730 machines, equal to 130,000 carloads, were delivered to buyers in this manner. Allowing 10 per cent. of this quantity as nearby or local deliveries and $100 per carload as an average freight charge on the remaining 117,000 carloads, the amount of freight revenue lost to the carriers through inability to furnish freight-cars during these nine months was nearly $12,000,000.

Shipments of finished automobiles and motor trucks from the main plants reach a volume of about 300,000 carloads per year, but according to the freight commodity statistics of the Interstate Commerce Commission this figure, including, however, wheels and parts as well as shipments of motor cars from all sources, will be nearer 500,000 carloads. Since January 1 the commission has required railroads to report this as one

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of the principal items of traffic recorded separately. Figures for the first quarter are now available and indicate 126,624 carloads; this does not include rubber tires nor does it include unfinished materials Motor vehicles move largely in trainload lots from the centers of large production, and loading and unloading of freight-cars is accomplished with great rapidity, all of which adds to the attractiveness of this traffic from a railroad viewpoint.

The earnings shown above, however, cover only the charges on finished machines and take no account of the immense tonnage in and out of the factories engaged in making tires, engines, frames, bodies and various other parts. In getting their fuel and materials, and shipping their output, these plants require thousands of freight cars each month. The shipping by freight and express of motor vehicle parts and other articles and accessories has reached a tremendous volume.

There is also the transportation required to supply gasolene and oil to some 8,000,000 machines that are now registered in the various states. The growth of plants and communities, with the incidental building operations and hauling of the necessaries of life, the building of modern highways and many kindred developments, create freight traffic for railroads that is traceable directly to this industry, and passenger trains carry daily hundreds of people directly connected with the industry or operations incidental to its development.

Regulating Truck Lines

"If motor-truck service is to be regulated it can be of most value by establishing through routes with joint rates and through bills of lading," says John J. Esch. "Through billing would be of great convenience to the interior shipper or merchant, but if through bills of lading are to be granted they should be properly protected. Under the Transportation Act recently enacted Congress gave to the Interstate Commerce Commission increased power in the division of rates. Without just and proper divisions of rates the motor truck line might find it impossible to survive. In determining the proportion of the joint rates to which the motor truck line is entitled, the Interstate Commerce Commission or other regulatory body would have to determine the cost of the service rendered by the motor truck line. But as yet we have not sufficient data to determine such cost; it varies with the character of the road, the type of truck used, the length of the haul and many other elements. Under the Transportation Act the commission also has the power to fix both the maximum and the minimum rates on the rail haul. Should the regulatory body be given a like power over the charges made by the motor truck line, or should such charges be limited only to their maximum as with water transportation?"

Between July 1, 1915, and December 31, 1918, British manufacturers built for the use of the English military authorities 39,273 motor trucks, 4,742 motor cars, 1,714 motor ambulances, 17,471 light cars and wagons, 35,031 motorcycles, and 2,212 track-laying tractors. In the same time they also supplied 56,906 aëroplane engines.

Motor Trucks Expedite Beet Handling

A 3½-Ton Truck and Two Trailers Will Haul 120 Tons Daily on 14-Mile Trip

THE motor truck is being used this season the first time for the transportation of sugar beets direct from the fields to the dump and to the factory. The feasibility of using trucks for this purpose has long been a subject for conjecture, and it remained for the Anaheim Sugar Company, with a large plant at Anaheim, California, to conduct the initial experiments.

A 3½-ton truck and 6 trailers were used in the experimental work. As a result of the satisfactory tests the sugar company now owns a complete equipment of trucks and trailers.

The modernized method of handling beets means total motorization of equipment. According to the procedure in use by the Anaheim company, the beets are dug by means of a special subsoil plow drawn by a tractor. No improvement over the old hand method of topping the beets has been devised, so this system will continue.

When the beets have been topped the tractor hooks on one or two trailers and drags them between rows, the same laborers who have topped the beets being used to load the trailers. When loaded, the trailers are drawn back to the highway, where the truck couples them up and takes them to the dump or, if the haul is not long, direct to the factory. While the truck is making delivery other trailers are being filled so that the process is not interrupted.

Because the old type of dump, such as is used for horse-drawn vehicles, was totally unable to meet the requirements, a new dump was set up. This is constructed so that when the truck arrives with the loaded trailers, it is driven over a platform built on a cradle which permits the entire trailer to be elevated on one side, its load dropping into a chute. This chute empties the beets into a huge revolving wheel.

The beets are carried around on the wheel, freeing them from dirt in the process, and when they reach the top they drop into a hopper where they are automatically weighed, and then released direct into a freight-car. Beet growers must know that the weight credited them is accurate, so provision is made that the dirt removed from the beets subsequently is discharged by a blower back into the trailer and returns to the field.

This system provides for dumping, cleaning, weighing and loading in cars, all in one continuous operation. Each trailer has a capacity of 6 tons.

As soon as the trailers are emptied they are recoupled to the truck and returned to the field where, in the meantime, other trailers have been loaded. The crawler type tractor releases the loaded trailers to the truck and takes on the empties, the entire change being a matter of only a few minutes.

When the field is close enough to the factory so there is no time or energy lost, the truck hauls there direct, the process of the dump and the transfer to freight-cars being eliminated entirely.

The demonstration showed that with sufficient labor to harvest and load, 15 tons of beets can be handled every 45 minutes.

The round trip is 14 miles. To couple the loaded trailers requires 2 minutes; to haul to the dump, 22 minutes; to dump the load, 10 minutes; and to return the empties to the field, 20 minutes. The times given were made in the preliminary experiments and total 54 minutes, but in time this can easily be reduced to 45 minutes. Making all allowances, a 9-hour day will permit 8 trips of 15 tons each, or a daily delivery of 120 tons, a figure which far exceeds anything anticipated at the time the project was first contemplated.

Warns Against Overloading

The Firestone Tire and Rubber Company is sending to all truck manufacturers who equip their output with Firestone tires a stock of hand-etched zinc plates, 2 by 5 inches in size, which contain a warning against overloading of trucks. The warning may be tacked to the cowl of each truck before it leaves the factory. It is in the form of a simple table showing the carrying capacity of pneumatic (cord) tires of various sizes and the proper inflation for each size. The figures are based on computations made by the Society of Automotive Engineers. At either end of the warning plate is an attractive "Ship by Truck" symbol.

The Firestone company also furnishes a pamphlet with complete instructions for the application of giant cord tires and demountable rims. A copy of the pamphlet is to be placed in the tool box of each truck as it leaves the factory.

Trucks Cheapen Ice Cream Delivery

The Hydrox Company, of Chicago, has a fleet of 24 motor trucks to deliver its ice cream and keeps complete cost records of the work of the trucks. Two years ago the company did not use trucks and the cost of delivering a gallon of ice cream was 5.06 cents, which has been reduced to 3.22 cents by the use of trucks. Thus is this company enabled to save $20,000 per year and served its customers with greater ease and satisfaction.

Stromberg Shows Bigger Earnings

The Stromberg Carburetor Company, of Chicago, shows a surplus of $204,228 for the second quarter of this year, after deducting all charges and taxes. Its surplus for the corresponding quarter of 1919 was $123,753. Total assets and liabilities as of June 30 were $3,614,291 and total income $313,637, an increase of $110,345 over the same period of last year.

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500—2,000 (Nash) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	1,000 Pounds:																			
2	Belmont, A.	1,150	G B & S-A.	4	3¾x4½-22.5	S	Pierce	T	C, Modine	N	Zenith	G	B	Y	P G B & S.	S, 3	Grant-Lees, K.	N	Sterling	2
4	Croce, 17	825	Wisconsin	4	3½x5-16.9			T		N	Zenith	G	M, Brown-L.	Y	M, Brown-Lipe	S, 3	Brown-Lipe			4
5	Dodge	1 085	Own	4	3¼x4½-24 2	FS		P	T		Stewart	G	B, Northeast.		M	S, 3				5
6	Duryea, C	675		4	12.0	S	N				Kingston	G	M, Bosch							6
7	Seneca, M		Le Roi, C	4	3¼x4½-15.9	FS		T	C, Kunts	N	Schebler	G	BM, Bosch	Y	P, Borg & B	S, 3	Warner, B	N	Universal	7
8	Vim, 29	1,355	Own	4	3¼x4½-15.6	FS	N	T	T, McCord	N	Zenith	G	B	Y	P, Own	S, 3	Own	N	Spicer	8
	1,200 Pounds:																			
9	Champion	1,325	Herschell-Spil	4	3½x5-19.6	S	N	T	C, Jamestown	N	Zenith	G	B	Y	P, Borg & B	S, 3	Grant-Lees	N		9
	1,500 Pounds:																			
11	Commerce, T	1,350	Continental N.	4	3¾x5-22.5	FS	N	T		N	Zenith	G	M, Eisemann	Y	C	S, 3		N	Spicer	11
12	Conetsoga, 12	1,850	Continental, N.	4	3½x5-19.6	FS		T	C, Fedders	N	Stromberg	G	M, Simms	Y	M, Fuller	S, 3	Fuller, TU¾	N	Spicer	12
13	Dispatch, G	1,200	Wisconsin	4	3¾x5-22.5	F		T			Rayfield		M, Bosch			4				13
15	Elmira, C	500	Perkins	4	3¼x4-15.6		N	T	C, Bush		Zenith		Atwater-K		C, Own	S, 2	Own		Own	15
16	Geneva, 1		Beaver	4	5½x5½-22.1		N				Schebler		M, Simms		P, Warner	P, 2				16
17	GMC, 16		Continental, N.	2	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	17
17a	H. R. L., L	2,400	Hers'l-Spill. 7000	4	3¼x5-19.6	F	N	T	T, Fedders		Zenith	G	M, Bosch		P, Own	S, 3	Covert		Spicer	17a
18	International, H	1,850	Own	4	3½x5½-19 6	FS	Own	P	T, Long, McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	18
19	Kearns, H	1,400	Hers'l-Spil 7000.	4	3½x5-19.6	FS	N	T	C, G & O	N	Zenith	G	B	Y	P, Borg & B	S, 3	Grant Lees, K.	N	Peters	19
20	Kissel, General Delivery	2,175	Own	4	3¾x5½-24.0	S	Pierce	P	T, Sparks-W	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	20
20a	Marshall		Lycoming	4	3¼x5-16.9				C			G			Hartford	S, 3				20a
21	Old Hickory, M	995	Lycoming	4	3½x5-16.9		N	T	C, Candler				Connecticut	Y	C, Lycoming	S, 3	Grant-Lees		Thermoid	21
22	Oldsmobile, Ecomony	1,500	Own	4	3¹¹/₁₆x5½-21.7	FS	N	P	C, Own	N	Zenith	G	B	Y	C	S, 3	Warner	N	Spicer	22
23	Patriot, Revere	1,785	Continental	4	3¾x5-22.5	S	N	T	C, B & W	N	Stromberg	G	B	Y	P, Borg & B	S, 3	Covert, MA	N	Thermoid	23
24	Rainier, R11	2,150	Continental N.	4	3½x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	24
25	Shaw, M2	1,975	Continental, N3¾	4	3¾x5-22.5	FS		T	T		Zenith	G	M, Bosch		M, Brown-L	S, 3	Brown-L		Spicer	25
26	Stewart, 11	1,295	Le Roi, 2C	4	3¾x4½-15.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	Y	P, Borg & B	S, 3	Durston 02500B	N	Hartford	26
27	Texan	1,495	G B & S	4	4¼x—28.9	F					Carter		M, Delco		M, G B & S	S, 3	Grant-Lees			27
28	Triangle, AA	* 1,600	Herschell-Spil, 4	4	3¼x5-16.9	S	N	T	T, Perfex	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU¾	N	Detroit	28
29	Watson, 21		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, G & O	N	Johnson	G	B	Y	M, Brown-L	S, 3	Brown-L, 35	N	M & E	29
30	White, 15	2,600	Own	4	3¾x5½-22.5	FS	N	P	C	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	30
30a	Winther, Deliv'y Spec'l	1,795	Herschell-Spil	4	3¼x5-19.6	F		T	T		Stromberg	G	B	Y	M, Warner	S, 3	Warner	N	Peters	30a
	2,000 Pounds:																			
31	Acason, R	2,400	Waukesha, BUX	4	3¾x5½-22.5	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N	Blood	31
32	Acme, B	2,175	Continental, N.	4	3¾x5-22.5	FS	Duplex	T	C, G and O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 3	Cotta, BUC	N	Blood	32
33	All-American	1,795	Herschell-Spil	4	3¼x5-19.6	FS	Pharo	T	C, Standard		Stromberg		M, Simms		M, Detlaff	I, 3	Cotta		Universal	33
34	Apex, C	1,745	Buda, RU	4	3¾x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	B, Auto-Lite	N	M, Fuller	S, 3	Fuller, TU¾	N	Detroit	34
34a	Armleder, 20		Buda CTU	4	3¾x5½-22.5	F	N	P	T, Long	N	Zenith	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LTU	N	Spicer	34a
35	Atco, IG10	1,875	Buda, WU	4	3¾x5½-22.5	F	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	Y	Hartford	35
35a	Atlas		Lycoming	4	3¼x5-19.6	S	N	T	C, Jamesto'n	N	Marvel	G	B	Y	P, Borg & B	S, 3	Own	N	Sterling	35a
35b	Avery		Own	4	3x4-21.6	FS		T	C	N	Stromberg	G	M, K-W	Y	M, Own	S, 3	Own	Y	Own	35b
36	Belmont, B	1,950	G B & S, AA	6	3¾x5-22.5	S	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	P, G B & S	S, 3	Grant-Lees, 515	N	Sterling	36
37	Bessemer, G	1,825	Continental, N.	4	3¼x5-19.6	S	N	T	C, Ideal	N	Zenith	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU¾	N	Arvac	37
37a	Bethlehem, K	1,695	Own	4	3¼x5-19.6	F	N	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Spicer	37a
37b	Birch	1,595	Victory	4	3¼x5-19.6	FS		T	T, Chicago		Stromberg	G	Connecticut		M, Fuller	S, 3	Fuller		Uni. Mch	37b
38	Briscoe, T34	1,550	Own	4	3¾x5-18.2	F	N	T	T, Perfex	Y	Buick	G	Connecticut	Y	C, Own	S, 3	Own		Universal	38
38a	Chevrolet, T	1,325	Own	4	3¹¹/₁₆x5½-21.7	FS	Monarch	P	Harrison		Zenith	G	Remy		C	S, 3	Warner		Arvac	38a
40	Chicago, C1	2,200	Hercules, CU2	4	3¾x5½-22.5	F	N	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	40
41	Clydesdale, 32C	2,375	Own	4	3¾x5½-22.5	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	41
42	Collier, 18		Continental	4	3¼x5-19.6		Monarch	P	T, Long		Zenith		M, Eisemann		M	S, 3	Fuller			42
43	Columbia, F	1,850	Continental, N.	4	3¾x5-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Detlaff	S, 3	Covert, B	N	Spicer	43
44	Commerce, E	1,855	Continental, N.	4	3¾x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	44
45	Conestoga, 20	2 100	Continental, N.	4	3¼x5-19.6	FS		T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU¾	N	Sterling	45
46	Corbitt, E	2,200	Continental, N.	4	3¾x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	46
48	Day-Elder, A	2,100	Continental, N.	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	48
49	Denby, 12	2,400	Continental, N.	4	3¾x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	49
50	Diehl, A	1,575	Continental, N.	4	3¼x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Simms	N	P, Borg & B	S, 3	Durston, 02800		Hartford	50
51	Famous, B10	1,690	Continental	4	3¼x5-19.6		Monarch	T	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	51
52	Federal, SD	2 500	Continental, J-4	4	3¾x5-22.5	F	Pharo	P	T	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Own	N	Peters	52
53	Ford, T	545	Own	4	3¾x4-22.5	FS	N	T	T, Own	N	Kingston	G	M, Own	N	M, Own	P, 2	Own	N	Own	53
54	Fulton			4	3¼x5-19.6			T						Y	P, Borg & B	3				54
55	Gabriel, C	2,000	Buda	4	4¼x5½-28.9		N	P	C, G & O		Rayfield		M, Bosch		P, Borg & B	S, 3	Brown-Lipe		Spicer	55
56	Gary, F	2,100	Buda, WU	4	3¾x5-22.5	F	Pierce	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU¾	N	Blood	56
58	GMC, 16		Continental, N.	4	3¾x5-22.5	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 3	Own	N	Own	58
59	Hahn, C	1,375	Continental, N.	4	3¼x5-19.6	FS			T, Chicago		Stromberg		M, Eisemann		M, Detroit	S, 3	Detroit			59
60	Hal-Fur, C	2,000	Buda	4	4x5-25.6		Duplex	P	T, G & O		Stromberg		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Peters	60
61	Higrade, A18	2,100	Continental, N.	4	3¼x5-19.6	FS	Simplex		C, Perfex		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller			61
62	Hoover, 15B	1,435	Continental, N.	4	3¼x5-19.6	FS		T	C, Candler		Schebler		M, Splitdorf		M, Fuller	S, 3	Fuller			62
63	Independent (Ohio), F	1,685	Continental	4	3¼x5-19.6		Monarch	T	T, National		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	63
64	International, F	2,050	Own	4	3¾x5½-19.6	FS	Own	P	T, Long, McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	64
65	Jones, 31A	1,395	Continental, N.	4	3¼x5-19.6	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Arvac	65
65a	Keystone, I	1,500	Own	4	3¼x4-18.2	S	Monarch	T	C, Own		Tillotson	G	Auto Lite		Own	S, 3	Own		Uni. Prod	65a
66	Kleiber, AA	2,600	Continental, C4	4	3¾x5½-22.5	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	66
67	Lone Star, 9		Victory	4	3¼x5-19.6	S		T	T, Chicago		Stromberg	G	Connecticut		M, Fuller	S, 3	Fuller		Thermoid	67
68	Menominee, Hurryton	2 080	Continental, N.	4	3¾x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1	N	Spicer	68
69	Myers, 60	1,545	Lycoming	4	3¼x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	M, Mechanics	S, 3	Mechanics	N	Universal	69
70	Napoleon, 9	1,535	Victory	4	3¼x5-19.6	F	N	T	T, Chicago	Y	Schebler	G	B	N	M, Fuller	S, 3	Fuller, TU¾	N	Universal	70
71	Nash, 2018	1,895	Own	4	3¾x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 3	Detroit, C	N	Own	71

* Without seat.

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TRUCK SPECIFICATIONS

500—2,000 (Nash)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds). Perc. of weight on rear axle when empty & when loaded.	Line no.
2	B, Flint	Y	B	2, R	9½, 9½	C, E	P	½, ½	Mather	7, 8	36¾x1¾-50x2½	L	Lavine	36, 0	W, E & O.	113	31x4p-31x4p	2,200	45, 75	2
4	B, Timken			2, R		C, E	P									108	32x4-32x4			4
5	B			2, R					Detroit						W	114	33x4p-33x4p			5
6				2, R		E,	P	C, T							W	86	36x3½p-36x3½p			6
7	B, Peru, 3050		B	2, R	9½, 8½	E, C	P	½, C		6, 9	36x1¾-51x2	L	Ditweiler		W	108	30x3½p-30x3½p			7
8	W, Sheldon, W500	Y	W	2, R	11, 10½	E, E	P	½, ½	Shelden	8, 7	38x2-50x2	L	C.A.S.	30, 10	W, Hoopes	108	31x4p-31x4p	2,175	40, 70	8
9	B	Y	B	2, R	10, 10	C, E	P, Parish & B.	½, ½		7, 8	36x2-50x2	L	C.A.S.		W	114	32x4p-32x4p	1,900	50, 65	9
11	B	Y		2, R		C, E	P	½, ½	Detroit	8, 10	36x2½-50x3	L	Jacox	26, 0	W	127	34x4½p-34x4½p			11
12	I, Torbensen, OX2	Y	B	2, R	9¾, 10½	C, E	P, Savage	½, ½	Iron City	7, 9	36x2-48x2½	L	C.A.S.	44, 0	W, E & O.	124	32x4½p-32x4½p	2,800	50, 60	12
13	I			2, R				½, ½	Tuthill						W	120	34x4p-34x4p			13
15	B, Own			2, R		E, E	R, Own	½, ½	Tuthill			L	Own			104	28x3p-28x3p			15
16	C, Sheldon			2, R					Sheldon						W	96	34x2-36x2½			16
17	B, Own	N	B	2, R	10½, 8½	C, E	P, Smith	½, ½	Detroit	8, 11	38x2½-54x2½	L	Jacox	46, W		132	35x5p-35x5p	2,940	50, 67	17
17a	W, Wisconsin			2, R				½, ½	Sheldon				Ross		W, Schwarz.	134	34x4½p-35x5p	3,300		17a
18	I, Own		B	2, R	10½, 11½	E, E	P	½, ½		8, 10	41x2½-54x2½	L	Own		W	115	36x3-36x3½	2,900	50, 64	18
19	I, Torbensen, OX2L	Y	S	2, R	12, 13	E, C	P	½, ½	Mather	6, 9	36x2-50x2	L	Lavine		W, E & O.	118	32x4½p-32x4½p	2,200	65, 80	19
20	W, Own	Y	B	2, R	9½, 10	E, E	P, Smith	½, ½	Mather	8, 10	36x2-50x2½	L	Jacox	50, 0	W, Prudden	135	34x4½p-34x4½p	2,900	52, 68	20
20a				2, R				½, ½								112	30x3½-30x3½			20a
21	B, Salisbury			2, R		C, E	R, Own	½, ½	Spring Perch			L	C.A.S.		W, Salisbury	112	33x4p-33x4p			21
22	I, Torbensen, OX2	Y	W	2, R	10½, 12	C, E	P, Smith	½, ½	Perfection	7, 10	37x2-50x2½	L	Jacox	46, 0	W	128	35x5p-35x5p	2,580	55, 75	22
23	W, Empire, B	Y	B	2, R	13½, 12	E, E	P, Detroit	½, ½	Cooper	7, 12	38x2½-50x2½	L	C.A.S.	43, 4	W, Bimel.	128	35x5p-35x5p	2,800	42, 58	23
24	W, Timken 6352	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Perfection	8, 9	38x2-50x2½	L	Lavine		W, Schwarz.	125	34x4½p-34x4½p	2,400	75, 75	24
25	B, Timken			2, R				½, ½	Mather				Gemmer		W, Standard	116	32x4p-32x4p	2,400		25
26	I, Clark, AS	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	6, 9	37½x2-48¾x2½	L	C.A.S.	42, 0	W, Wayne.	110	32x4p-32x4p	2,190	53, 66⅔	26
27	B, Salisbury			2, R		E, E		½, ½							W	115	33x4p-33x4p			27
28	I, Clark, AS	Y	B	2, R		C, C	R, Mason	½, ½	Detroit	7, 10	42x2-54x2½	L	Gemmer		W, Hayes	115	35x5p-35x5p	2,600	60, 80	28
29	W, Empire, B	Y	B	2, R	10½, 11	E, E	P, Smith	½, ½	Sheldon	8, 8	40x2½-50x2½	L	Lavine		W, Hoopes	128	34x4½p-34x4½p			29
30	B, Own	N	B	2, R	9½, 9	C, E	P	½, ½				L	Own	50, 4	W	133½	34x4½p-34x4½p	2,960	54, 70	30
30a	I, Torbensen	Y	B	2, R		C, C	R	½, ½				L			W	135	34x4½p-35x5p			30a
31	W, Timken, 6352	Y	W	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	8, 12	39x2½-52x2½	L	Ross		W, Bimel.	142	36x3½-36x5	3,650	—, 73	31
32	W, Timken, 6352	Y	B	2, R	9, 9½	E, E	P	½, ½	Detroit	7, 11	38x2½-52x2½	L	Ross	54, 0	W, Bimel.	130	34x3½-34x5	3,200	50, 70	32
33	I, Torbensen		W, Powrlok	2, R		C, E	P, Detroit	½, ½	Detroit	9, 13	38x2-54x2½	L	Lavine		W	130	32x4-32x4			33
34	I, Torbensen	Y	W, Powrlok	2, R	10½, 11½	C, E	R	½, ½	Detroit	8, 11	36x2-52½x2½	L	Lavine		W, Bimel.	130	33x4p-32x3½	2,870	—, 66	34
34a	W, Timken	N	W	2, R		E, E	P, Smith	½, ½	Mather	8, 11	43x2½-63x2½	L	Ross		W, St. M'rys.	148	34x3½-34x5	3,950	—, 80	34a
35	I	Y		2, R				½, ½			40x2½-50x2½	L	Ross		W	132	34x4½p-36x6p			35
35a	W	Y	B	2, R		C, C	P	½, ½		8, 11	36x2-46x2	L	C. A. S.		W	118	32x4½p-32x4½p	2,650	50, 70	35a
35b	I, Torbensen	Y		2, R		C, E	P	T, ½	Mather			L	Ross		W, Own	129	34x5p-34x5p			35b
36	I, Clark	N	B	2, R	12, 12	C, E	R, Savage	½, ½	Mather	7, 11	40x2½-52½x2½	L	Lavine	44, 0	W, E & O.	144	34x4½p-36x5	3,200	50, 75	36
37	I, Torbensen, A	Y	B	2, R	11, 11¾	C, E	P	½, ½	Perfection	8, 10	39x2½-52x2½	L	Ross	54, 0	W, Schwarz.	124	34x3-34x4	2,910	47, 60	37
37a	I, Columbia	Y	B	2, R	10, 12	C, E	P, Detroit	½, ½	Mather	7, 9	36x2-50x2½	L	Ross	48, 0	W, Wayne.	125	34x4½p-35x5p	2,715	—, 80	37a
37b	I, Clark			2, R				½, ½					Lavine			132	32x3½-32x4	3,200		37b
38	I, Russel	Y	B	2, R	9½, 9½	C, E	P, Parish	½, ½	Alloy	7,11	38x2½-52x2½	L	Lavine	45, 0	W, Hayes	121	33x4-34x3½	2,958		38
38a	W			2, R				½, ½					Warner			125	33x4p-35x5p			38a
40	W, Timken, 6460	Y	B	2, R	10½, 11	E, E	R, Own	½, ½	Mather	8, 9	40x2½-54x3	L	Gemmer		W, Standard	132	36x3-36x4	3,800	60, 75	40
41	W, Timken	N	B	2, R	11, 10	E, E	P, Parish & B.	½, ½	Perfection	9, 7	36x2½-50x3	L	Ross	52, 0	W, Bimel.	144	34x3½-34x5	3,450	51, 62	41
42	W			2, R		E, E	P	½, ½					Ross			140	34x4-34x5			42
43	I, Russel, PI300	Y	B	2, R		C, E	R, Own	½, ½	Perfection	8, 10	38x2½-48x3	L	Own		W, St. Mary	120	34x3½-34x4	3,300		43
44	I, Torbensen, A	Y	B	2, R	10, 11½	C, E	P, Detroit	½, ½	Detroit	8, 10	36x2½-50x3	L	Jacox	46, 0	W, Bimel.	126	34x3½-34x4	2,900		44
45	W, Wis., 800D	Y	W	2, R	10½, 9	E, E	R, Own	½, ½	Iron City	8, 10	36x2½-48x2½	L	Ross	50, 0	W, E & O.	128	34x3½-34x5	3,400	50, 65	45
46	W. Sheldon	Y	W	2, R		E, E	R, Own	½, ½	Mather	8, 10	38x2½-50x2½	L	Ross		W, Bimel.	130	34x3½-34x4		70, 70	46
48	W, Sheldon, W1500	Y	B	2, R	10, 9¾	E, E	P, Savage	½, ½	Iron City	8, 12	40x2½-54x2½	L	Gemmer	46, 6	W, Jones	128	34x3½-34x4	3,250	50, 70	48
49	I, Russel, P	Y	S	2, R	14, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	43½x2½-48x2½	L	Ross	54, 0	W, Hayes	124	35x5p-36x6p	3,220	51, 73	49
50	I, Torbensen, OX2L	Y	W	2, R	10, 12	C, C		½, ½	Rowland	8, 12	34½x2½-48x2½	L	Jacox	18, 0	W, Schwarz.	115	34x4p-35x5p	2,400	—, 90	50
51	I, Clark			2, R		C, C	P, Savage	½, ½	Sheldon			L	Ross		W, Bimel.	120	36x3½-36x4			51
52	W, Timken, 6352	N	B	2, R	13, 12	E, E	P, Detroit	½, ½	Mather	7, 8	40x2½-52x2½	L	Gemmer	51, 9	S, Detroit	132	35x5p-36x6p	3,600	55, 70	52
53	W, Own	N	W	2, R	10½, 8½	C, E	P, Parish & B.	½, ½ t	Own	7, 9	31⅝x1½-16½x3	L	Own	46, 0	W	124	30x3p-32x3½	1,465		53
54	I			2, R		C, C	P								W					54
55	W, Timken			2, R		E, E	P, Parish	½, ½	Merrill			L	Gemmer		W, Standard	136	35x5p-35x5p			55
56	W, Timken, 6352	Y	W	2, R	12½, 11½	E, E	P	½, ½	Tuthill	8, 11	40x2½-52x2½	L	Ross	42, 0	W, Prudden	130	36x3½-36x4	3,200	50, 20	56
58	B, Own	N	B	2, R	10½, 8¾	E, E	P	½, ½	Detroit	8, 11	38x2½-54x2½	L	Jacox	46, 0	W	132	35x5p-35x5p	2,940	50, 67	58
59	I, Torbensen			2, R			P, Parish	½, ½	Delaney				Lavine		W	127	34x3-34x4			59
60	W, Timken			2, R		E, E	P, Parish & B.	½, ½	Spring Perch			L	Gemmer		W, Standard	136	35x5p-35x5p			60
61	W, Sheldon			2, R		E, E	P, Own	½, ½	Perfection				Lavine		W, Prudden	115	35x5-35x5			61
62	W, Sheldon			2, R		E, E	P, Detroit	½, ½					Lavine		W	120	32x4-33x4½			62
63	W, Chicago			2, R		E, E	P, Parish & B.	½, ½	Iron City			L	Ross		W, Wayne.	128	34x3½-34x4			63
64	I, Own		B	2, R	10½, 11½	E, E	P	½, ½		10, 12	40¾x2½-54x2½	L	Own		W	128	36x3½-36x4	3,000	50, 64	64
65	I, Russel, O	N	S	2, R	11½, 11½	C, E	P, Hydraulic	½, ½	Champion	9, 11	37x2½-51½x2½	L	C.A.S.	40, 0	W, Prudden	130	34x3½-34x4	3,400	20, 80	65
65a	I, Torbensen			2, R				½, ½	Rowland				Own		W, Hoopes	122	31x4p-33x5p	2,040		65a
66	W, Timken, 6460	Y	W	2, R	9, 9	E, E	R	½, ½	Betts	7, 11	44x2½-52x3	R	Ross		W, W't'rh'se	130	34x3½-34x5	4,300	50, 75	66
67	I, Kenosha			2, R				½, ½					Lavine			134	34x4½p-34x4	3,200		67
68	W, Timken, 6460	N	B	2, R		E, E	R	½, ½	Tuthill	9, 12	39x2½-50x2½	L	Ross		W, Standard	130	34x3½-34x4	3,600		68
69	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B.	½, ½	Cleveland	7, 8	36x2-50x3	L	C.A.S.		W, E & O.	130	34x2½-34x4	2,850	50, 75	69
70	I, Clark, AS	Y	B	2, R	14, 14	C, C	R, Own	½, ½	Mather	8, 10	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-35x5p	3,200	50, 65	70
71	I, Clark, 1	Y	W	2, R	9½, 9½	C, C	P, Own	½, ½	Alloy	10, 12	37½x2½-52x2½	L	Jacox	47, 0	W, Auto	130	34x3-34x4	3,400	44, 67½	71

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2,000 (National)—3,000 (International) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of gov-ernor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbu-reter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of univer-sal joints.	Line no.
	2,000 Pds.—Con.																			
72	National, FA	.....	Waukesha, BUX	4	3½x5½-22.5	S	Waukesha	P	C, McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	72
73	Noble, A30	.....	Buda	4	3½x5½-22.5	...	Pierce	P	T, Chicago	Y	Stromberg	G	M, Eisemann	...	M, Fuller	S, 3	Fuller	...	M & E	73
74	Ogden, A1	2,295	Continental, N	4	3½x5-22.5	S	Pierce	T	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Acme	74
75	Palmer	1,585	Continental, N	4	3½x5-22.5	FS	Pierce	P	C, Fedders	...	Stromberg	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	...	75
75a	Pioneer, AA	1,550	G. B. & S	4	3½x4½-22.5	F	...	T	C, Chicago	...	Zenith	G	M, Dixie	...	M, Detroit	S, 3	Grant-Lees	...	Thermoid	75a
76	Rainier, R9	2,350	Continental, N	4	3½x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	76
77	Republic, 10	1,655	Continental, N	4	3½x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU½	N	Hartford	77
78	Royal	2,400	Wisconsin	4	3½x5-16.9	...	Monarch	P	T, Kells	...	Stromberg	...	M, Bosch	...	P, Borg & B	I, 3	Own	...	...	78
79	Shadow, G	2,195	Continental, N	4	3½x5-19.5	S	N	T	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	Spicer	79
80	Service, 230	2,415	Buda, RU	4	3½x5½-19.6	FS	N	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Arvac	80
80a	Shaw, M4	2,300	Continental, N3½	4	3½x5-22.5	FS	...	T	C	...	Zenith	G	M, Bosch	...	M, Brown-L	S, 3	Brown-L	...	Spicer	80a
81	Signal, NF	2,750	Continental, J4	4	3½x5-22.5	FS	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	81
82	Southern, 10	2,090	Buda, RU	4	3½x5½-19.6	FS	Pierce	P	T, Standard	N	Zenith	...	M, Bosch	N	P, Borg & B	S, 4	Fuller	N	Spicer	82
83	Standard, 56	2,250	Continental, N	4	3½x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	83
84	Stewart, 12	1,650	Continental, N	4	3½x5-19.6	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Durston, 02300	N	Hartford	84
85	Superior, D	1,800	Continental, N	4	3½x5-22.5	F	Pierce	T	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	Y	Arvac	85
86	Transport 30	1,850	Buda, WU	4	3½x5½-22.5	FS	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S	Fuller, TU½	N	Thermoid	86
87	Traylor, B	2,075	Buda, WU	4	3½x5½-22.5	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N	...	87
88	Vim, 31	2,475	Hercules	4	3½x5½-22.5	F	N	T	T, McCord	N	Zenith	G	M, Dixie	Y	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	88
89a	White Hickory, E	2,450	Continental, N	4	3½x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU½	N	M & E	89a
89b	Wichita, K	2,300	Own	4	3½x5-19.6	S	N	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4	...	N	Thermoid	89b
89	Wilcox, A	.....	Buda, QU	4	3½x5½-22.5	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	...	89
90	Witt-Will, N	2,150	Continental	4	3½x5-22.5	...	Pierce	P	C, Bremer	...	Zenith	...	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	...	Spicer	90
	2,000 Pounds:																			
91	Garford, 25	2,290	...	4	3½x5½-22.5	S	Monarch	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M	S, 3	...	M	...	91
92	Hahn, C	1,950	Continental C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago	...	Stromberg	...	M, Bosch	...	M, Brown-L	S, 3	Brown-L	...	...	92
93	Indiana, 12	2,290	Waukesha, BUX	4	3½x5½-22.5	F	Waukesha	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, G1	N	Acme	93
94	Koehler, C	1,985	Herc'l-Spil. 7000	4	3½x5-19.6	F	Simplex	T	C, Gordon	Y	Zenith	G	M, Eisemann	N	P, Mechanics	S, 3	Mechanics, LU	N	Kinsler-B	94
95	Old Hickory, W	2,175	Continental, N	4	3½x5-22.5	FS	Pierce	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees, 515	N	Blood	95
96	Oneida, A9	2,350	...	4	3½x5½-22.5	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3	...	N	Peters	96
96a	Rea, F	† 1,385	Own	4	4¼x4½-27.2	FS	N	P	T, Own	N	Johnson	G	B	Y	M, Own	S, 3	Own	N	Own	96a
	3,000 Pounds:																			
97	Acason, RB	2,650	Waukesha, BUX	4	3½x5½-22.5	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Blood	97
98	Ace, C	2,750	Buda, WU	4	3½x5½-22.5	F	Pierce	P	T, Modine	Y	Schebler	G	B, Westingh'e	Y	M, Fuller	S, 3	Fuller	N	M & E	98
99	Acme, F	2,475	Continental, J4	4	3½x5-22.5	F	Duplex	P	T, G & O	N	Zenith	G	M, Eisemann	N	P, Borg & B	I, 3	Cotta, AAU	N	Blood	99
99a	Aetna	2,775	Wisc., CAU	4	3½x5½-22.5	F	Pierce	P	T, Own	Y	Zenith	G	M	...	P, Borg & B	I, 4	Cotta, A	N	Spicer	99a
99b	All-American	2,195	Herschell-Spill'n	4	3½x5-19.6	FS	...	T	...	...	Stromberg	...	M, Simms	...	M	I, 4	Cotta	...	...	99b
100	Apex, D	1,915	Buda, RU	4	3½x5½-19.6	FS	N	T	C, G & O	N	Stromberg	G	Auto-Lite	N	M, Fuller	I, 4	Fuller, TU½	N	Detroit	100
100a	Atterbury, 20R	2,775	Continental, J4	4	3½x5-22.5	S	Monarch	P	T, Own	...	Zenith	G	M, Berling	...	M, Brown-L	S, 4	Brown-L	...	Spicer	100a
100b	Available, H1½	2,750	Hercules, CU3	4	4x5½-25.6	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	I, 4	Cotta, A	N	M & E	100b
101	Beak, A	1,950	Continental	4	3½x5-22.5	S	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU½	Y	Blood	101
102	Bell	2,250	Buda, CTU	4	3½x5½-22.5	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit, DX	Y	Universal	102
103	Bessemer, H2	2,445	Continental, N	4	3½x5-22.5	S	Pierce	P	C, Standard	N	Zenith	G	M, Bosch	N	P, Borg & B	S, 3	Brown-L, 35	N	Arvac	103
104	Bridgeport, A	2,350	Buda, WU	4	3½x5½-22.5	...	Pierce	...	T	...	Stromberg	G	M, Eisemann	...	P, Borg & B	I, 3	Cotta	...	Hartford	104
105	Broadway, 32	2,250	Continental, N	4	3½x5-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	105
105a	Capitol, G1½	2,750	Wisconsin	4	3½x5-22.5	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	Y	M, Detlaff	I, 4	Cotta, AU	N	Thermoid	105a
106	Chicago, C1½	2,450	Hercules, CU2	4	3½x5½-22.5	F	N	T	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Peters	106
106a	Climber, A2	2,650	Herc'l-Spill. 7000	4	3½x5-19.6	FS	...	P	T	...	Stromberg	G	Atwater-K	...	M	...	...	...	...	106a
107	Clydesdale, 42C	2,750	Own	4	4x5½-25.6	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	107
108	Collier, 19	.....	Continental	4	3½x5-22.5	...	Monarch	P	...	...	Zenith	...	M, Eisemann	...	M, Fuller	S, 3	Fuller	...	...	108
109	Comet, 1-T-2	1,950	Lycoming	4	3½x5-19.6	S	N	T	C, Standard	Y	Carter	G	B, Dyneto	Y	P, Borg & B	S, 3	Muncie, T25	Y	Arvac	109
110	Commerce, EP	2,255	Continental, N	4	3½x5-22.5	S	N	T	T, Long	N	Zenith	G	M, Eisemann	N	C, Detroit	S, 3	Detroit, C	N	Spicer	110
111	Concord, A	2,350	Buda	4	3½x5½-22.5	...	Monarch	P	T, Bush	...	Zenith	...	M, Eisemann	...	M, Brown-L	S, 3	Brown-Lipe	...	Spicer	111
112	Corbitt, D	2,600	Continental, N	4	3½x5-22.5	FS	Duplex	T	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller	N	Hartford	112
113	Dart, S	2,250	Buda, WU	4	3½x5½-22.5	F	Pierce	T	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	Y	Spicer	113
114	Day-Elder, B	2,300	Continental, N	4	3½x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert, MUNC	N	Hartford	114
115	Dearborn, F	2,180	Continental, N	4	3½x5-19.6	F	N	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU½	N	Hartford	115
116	Defiance, D	2,550	Own	4	3½x5-22.5	...	N	T	C, Perfex	...	Stromberg	...	...	Y	P, Borg & B	S, 3	Grant-Lees	...	...	116
117	Dependable, C	2,350	Buda, CTU	4	3½x5½-22.5	F	Pierce	P	T, Long	N	Zenith	G	M, Dixie	N	M, Fuller	S, 3	Fuller, LTU	N	Acme	117
118	Diamond T, T *	2,450	Hinkley	4	3½x5½-22.5	F	Unit Mot.	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 3	Covert	N	Sn'd & Sp	118
118a	Douglas, G	2,200	Weidely	4	3½x5½-22.5	F	...	P	T, Own	...	Schebler	...	M, Eisemann	...	P, Borg & B	S, 3	Grant-Lees	...	Arvac	118a
119	Duplex, A	2,775	Hinkley, HAA	4	4x5½-25.6	FS	N	P	T, Modine	N	Stromberg	G	B	Y	M, Covert	S, 3	Covert, MUC	Y	Peters	119
120	Erie	.....	...	4	4¼x5½-27.2	...	Pierce	P	...	...	Stromberg	...	M, Bosch	...	M	4	...	...	...	120
121	Fageol	3,500	Lycoming, K	4	3½x5-19.6	S	N	T	C, Modine	N	Zenith	DG	M, Dixie	N	P, Borg & B	S, 5	Own	Y	Detroit	121
121a	Famous, B12	2,295	Continental, N3½	4	3½x5-22.5	S	Monarch	T	T, Chicago	...	Stromberg	G	M, Eisemann	...	M, Fuller	S, 3	Fuller	...	Bearings	121a
122	Federal, TE	2,725	Continental, C4	4	4¼x5½-27.2	S	Pharo	P	T	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit	N	Spicer	122
123	Forschler, AX	2,375	Continental	4	3½x5-19.6	...	Duplex	P	T, Own	...	Zenith	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	Own	123
123a	Front Drive, C	2,800	Buda, CTU	4	3½x5½-22.5	S	Pierce	P	T, E. & M	...	Zenith	G	M, Louraine	...	P, Borg & B	S, 3	Own	...	Own	123a
124	Gary, GT	2,550	Buda, TU	4	4x5½-25.6	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Blood	124
124a	Gersix, M	3,100	Buda, TU	4	4x5½-25.6	F	Monarch	P	C, Ideal	N	Stromberg	G	M, Bosch	N	P, Borg & B	I, 3	Cotta, BUA	N	Blood	124a
125	Giant, 15	2,425	Continental, N	4	3½x5-22.5	FS	N	P	C, Ideal	N	Schebler	G, K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	125
126	GMC, 31A	.....	Continental, N	4	3½x5-22.5	FS	Monarch	T	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	126
127	Graham Brothers	2,495	Continental, N	4	3½x5-22.5	FS	Monarch	T	T, Long	N	Stromberg	...	M, Eisemann	...	M, Fuller	S, 3	Fuller	N	Hartford	127
128	Gramm-B'nst'n, 15 (int.)	2,050	Continental, N	4	3½x5-22.5	FS	N	T	T, Own	N	Stromberg	G	B, Northeast	N	M, Fuller	S, 3	Fuller	N	Own	128
129	Gramm-B'nst'n, 65 (w'm)	2,725	Continental, N	4	3½x5-22.5	FS	N	T	T, Own	Y	Stromberg	G	B, Northeast	N	M, Fuller	I, 3	Own	N	Own	129
130	Grant, 17	2,675	Continental, N	4	3½x5-22.5	FS	Pierce	T	C, Fedders	N	...	G	M, Splitdorf	Y	M, Brown-L	S, 4	Brown-L, 35	N	...	130
131	G. W. W	2,100	Weidely	4	3½x5½-22.5	F	...	T	C, Chicago	...	Schebler	G	Delco	...	M, Fuller	S, 3	Fuller	...	Acme	131
132	Harvey, WEA	2,550	Buda	4	4¼x5½-27.2	...	Monarch	P	T, Chicago	...	Zenith	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	Arvac	132
133	Hawkeye, K	2,365	Buda	4	3½x5½-22.5	...	Simplex	P	T, Ideal	...	Zenith	...	M, Eisemann	...	M, Fuller	S, 3	Fuller	...	Hartford	133
133a	Higrade, B20	2,500	Continental, J4	4	4¼x5½-27.2	FS	...	P	T, Perfex	...	Zenith	G	M, Eisemann	...	M, Fuller	S, 3	Fuller	...	Blood	133a
133b	Hoover, 20A	.....	Continental, N	4	3½x5-19.6	F	Pierce	P	Candler	...	Schebler	G	M, Dixie	...	M, Fuller	S, 3	Fuller	...	Arvac	133b
133c	H. R. L., R	3,250	Hinkley	4	4x5½-25.6	F	Hinkley	P	C, Fedders	...	Zenith	G	M, Bosch	...	M, Brown-L	S, 4	Brown-L	...	Spicer	133c
134	Huffman, C (int.)	1,695	Continental	4	3½x5-22.5	F	...	T	C	...	Zenith	...	M, Dixie	...	M, Fuller	S, 3	Fuller	...	...	134
135	Huffman, B (worm)	1,895	Continental	4	3½x5-22.5	F	...	T	C	...	Zenith	...	B, Northeast	...	M, Fuller	S, 3	Fuller	...	...	135
136	Hurlburt, A	2,850	Buda, IU	4	4x5½-25.6	FS	Duplex	P	T, Own	...	Flechter	...	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe	...	...	136
137	Independent (Iowa)	2,040	Continental, N	4	3½x5-22.5	FS	...	...	T, Chicago	...	Stromberg	...	M, Bosch	...	M, Fuller	S, 3	Fuller	...	...	137
139	International, K	2,400	Own	4	3½x5½-19.6	FS	Own	P	T, Long, McC	Y	Holley	G	M, Bosch	N	M, Own	S, 3	Own	N	Own	139

* Model FS has same specifications, but includes cab and farm body, and is priced at $2,715. † Without seat.

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TRUCK SPECIFICATIONS

2,000 (National)—3,000 (International)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
72	W, Timken, 6352..	Y	W	2, R	10½, 10½	E, E	P.....	½, ½	Coghlin....	8, 10	40x2½-52x2½...	L	Ross.....	34, 0	W, Hayes..	136	34x3½-34x3½.....	3,350	.....	72
73	W, Sheldon.....	...	.....	2, R	.....	E, E	P, Slick-Knox.	½, ½	SpringPerch	.....	.....	L	Lavine.....	.....	W, Bimel...	144	36x3½-36x4.....	3,920	.....	73
74	W, Timken, 6460..	Y	S	2, R	10 , 10	E, E	P, Garden City.	C, C	Tuthill....	8, 10	38x2½-50x2½...	L	Gemmer..	.....	W, Standard	136	36x3½-36x4.....	3,400	—, 70	74
75	I, Torbensen.....	...	.....	2, R	.....	...	P, Parish & B..	...	Champion..	.....	.....	...	Ross.....	.....	W.....	132	34x3½x34x4.....	.....	.....	75
75a	W.....	...	.....	2, R	.....	...	.....	½, ½	Garden City	.....	.....	...	Ditweiler.	.....	W, St. M'rys.	130	32x4½p-32x4½p....	2,300	.....	75a
76	W, Sheldon, W1500	Y	B	2, R	9½, 10	E, E	P, Parish.....	½, ½	Perfection..	8, 13	38x2-50x2½...	L	Lavine.....	.....	W, Schwarz.	125	32x3½-32x4.....	2,750	75, 75	76
77	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Detroit.....	½, ½	Mather....	7, 11	39x2½-52½x2½..	L	Jacox.....	.....	W.....	124	34x3-34x4.....	2,925	.....	77
78	W, Timken.....	...	.....	2, R	.....	E, E	R, Own.....	...	Merrill.....	.....	.....	...	Ross.....	.....	W.....	128	34x4-34x5.....	.....	.....	78
79	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage.....	½, ½	Garden City	7, 10	36x2½-52x2½...	L	Ross.....	48, 0	W, Standard	120	34x3½-34x5.....	3,300	20, 70	79
80	W, Timken, 6456..	Y	B	2, R	9½, 9	E, E	P.....	½, ½	Mather....	8, 9	40x2½-50x2½...	L	Ross.....	42, 0	W, Bimel...	137	34x3½-34x5.....	3,470	—, 70	80
80a	W.....	...	.....	2, R	.....	...	.....	½, ½	Mather.....	.....	.....	...	Gemmer..	.....	.....	130	35x5p-35x5p.....	2,575	.....	80a
81	W, Timken, 6352..	N	B	2, R	11 , 11	E, E	P, Savage.....	½, ½	Detroit.....	10, 11	38x2½-52x2½...	L	Ross.....	53, 0	W, Hayes..	132	34x5p-36x6p.....	4,395	—, 70	81
82	W, Sheldon.....	Y	W	2, R	10 , 11	...	P, Parish & B..	...	Mather.....	.....	38x2½-54x2½...	L	Ross.....	.....	W, Royer..	130	35x3p-35x5.....	.....	.....	82
83	W, Timken, 6352..	Y	B	2, R	10 , 11½	E, E	P, Parish.....	½, ½	Perfection..	.....	39½x2½-53½x2½.	L	Ross.....	.....	W.....	134	34x3½-34x4.....	3,220	58, 71	83
84	I, Clark, 1D.....	Y	B	2, R	10 , 10	C, C	P.....	½, ½	Detroit.....	8, 11	38½x2-50x2½...	L	Ross.....	45, 0	W, Wayne..	130	34x3½-34x4.....	2,820	53, 70	84
85	I, Torbensen, A...	Y	B	2, R	11 , 11½	C, E	P.....	½, ½	Tuthill....	8, 11	37½x2-44x2½...	L	C.A.S....	36, 0	W, Schwarz.	124	34x4½p-34x5p.....	2,950	75, —	85
86	I, Clark, 1D	Y	B	2, R	11¼, 12	C, E	P, Detroit.....	½, ½	Detroit....	8, 10	39x2½-52½x2½..	L	Jacox.....	.....	W.....	130	3x3½-34x4.....	3,070	30, 70	86
87	W, Sheldon, W1501	Y	W	2, R	.....	E, E	P, Savage.....	½, ½	.....	.....	36x2½-48x2½...	L	Ross.....	.....	W, Schwarz.	132	34x3½-34x5.....	3,500	.....	87
88	W, Sheldon, W1501	Y	W	2, R	12½, 11	E, E	P.....	½, ½	Sheldon....	9, 12	40x2½-54x2½...	L	Gemmer..	35, 0	W, Hoopes.	125	35x5p-35x5p.....	3,790	40, 70	88
88a	W Timken, 6352..	Y	W	2, R	11½, 11½	E, E	P, Parish & B..	½, ½	Sheldon....	8, 10	38x2-52x2½...	L	Lavine...	44, 0	W, Bimel...	124	35x5p-35x5p.....	3,150	.....	88a
88b	W, Sheldon.....	Y	B	2, R	10¼, 10¼	E, E	P, Own.....	½, ½	Detroit....	.....	40x2½-50x3...	R	Ross.....	.....	W.....	144	36x3-36x4.....	3,650	.....	88b
89	W, Wis., 800D....	Y	B	2, R	.....	E, E	P.....	½, ½	Sheldon....	9, 11	36x2½-50x2½...	L	Gemmer..	.....	I, Smith....	130	35x5p-35x5p.....	3,600	25, 75	89
90	W, Timken.....	...	.....	2, R	.....	E, E	P, Parish.....	½, ½	Delaney....	.....	.....	L	Ross.....	.....	W, Archibald	120	36x3½-36x4.....	.....	.....	90
91	W.....	Y	B	2, R	.....	E, E	P.....	½, ½	.....	8, 8	42x2½-50x2½...	L	Ross.....	50, 0	W.....	135	36x3½-36x4.....	3,900	.....	91
92	W, Timken.....	...	.....	2, R	.....	...	P, Parish.....	...	Delaney....	.....	.....	...	Lavine.....	.....	.....	135	36x3½-36x5.....	.....	.....	92
93	W, Sheldon, W1501	N	B	2, R	10, 8½	E, E	R, Illinois.....	½, ½	Sheldon....	8, 9	38x2-50x2½...	L	Wohlrab..	44, 0	W, Bimel...	134	34x3-34x5.....	4,100	55, 65	93
94	I, Torbensen, A...	Y	B	2, R	.....	C, E	P, Parish & B..	½, ½	Mather....	8, 13	38x2½-54x2½...	L	Own.....	.....	W, Wayne..	131	34x3-34x5.....	3,300	.....	94
95	W, Timken, 6453..	Y	W	2, R	10, 10	E, E	R, Own.....	½, ½	Standard..	9, 11	40x2½-50x3...	L	Lavine...	43, 0	W, Standard	135	36x3½-36x4.....	3,450	40. 66	95
96	W.....	Y	B	2, R	.....	E, E	P. Detroit	½, ½	Mather....	8, 10	40x2½-54x3...	L	Ross.....	.....	W.....	135	36x3½-36x5.....	4,350	60, 85	96
96a	B, Own.....	N	B	2, R	11¾, 9½	C, E	P, Own.....	½, ½	Penn.....	.....	38x2-40x2½...	L	Own.....	44, 0	W.....	128	34x4½p-34x4½p....	2,615	43½, 62½	96a
97	W, Timken, 6460..	Y	W	2, R	11 , 11	E, E	P, Savage.....	½, ½	Detroit.....	8, 12	39x2½-52x2½...	L	Ross.....	.....	W, Bimel...	142	36x3½-36x6.....	3,800	—, 74	97
98	W, Timken, 6460..	Y	W	2, R	10 , 11	E, E	P, Parish & B..	½, ½	Mather....	9, 9	39½x2½-53½x3..	L	Ross.....	.....	W, Schwarz.	144	36x6p-38x7p.....	4,750	50, 80	98
99	W, Timken, 6460..	Y	B	2, R	9 , 9½	E, E	P, Smith.....	½, ½	Detroit....	8, 12	38x2½-52x2½...	L	Ross.....	54, 0	W, Bimel...	141	34x3½-34x5.....	3,700	50, 70	99
99a	W, Sheldon, W103	N	.....	2, R	.....	E, E	R.....	½, ½	Sheldon....	9, 13	38x2½-52x3.....	L	Ross	.....	W.....	144	36x3½-36x5.....	.....	50, 70	99a
99b	I, Torbensen.....	...	W, Powrlok	2, R	.....	E, E	P.....	½, ½	.....	10, 12	40x2½-54x3.....	...	.....	.....	W.....	144	34x4-34x5.....	.....	.....	99b
100	I, Torbensen.....	Y	W, Powrlok	2, R	10½, 11½	C, E	R.....	½, ½	Detroit.....	8, 12	36x2-52½x2½...	L	Lavine.....	.....	W, Bimel...	130	32x3½-32x4.....	3,070	—, 66	100
100a	W, Timken.....	...	.....	2, R	.....	...	.....	½, ½	Spring Perch	.....	.....	...	Gemmer..	.....	W, Archibald	140	36x3½-36x5.....	4,770	.....	100a
100b	W, Wisconsin.....	N	B	2, R	9½, 9½	E, E	R, Own.....	½, ½	Tuthill....	8, 10	40x2½-50x3	L	Ross.....	42, 0	W, St. Mary's	152	36x3½-36x5.....	4,000	55, 75	100b
101	I, Clark, 1B.....	N	B	2, R	14 , 13	C, E	P, Parish & B..	½, ½	Higgins...	7, 12	40x2½-52x2½...	L	Lavine...	48, 0	W, Bimel...	132	35x5-35x5.....	2,800	30, 75	101
102	I, Russel	Y	B	2, R	12 , 13	C, E	R, Own.....	½, ½	Detroit	7, 12	40x2-54x2½...	L	Gemmer..	52, 0	W, Bimel...	132	32x3½32x4.....	3,500	50, 70	102
103	I, Torbensen, C...	N	B	2, R	11 , 12	C, E	P.....	½, ½	Perfection..	8, 11	39x2½-56x3	L	Ross.....	54, 0	W, Schwarz.	144	36x3½-36x5.....	3,600	53, 65	103
104	W, Wisconsin.....	...	.....	2, R	.....	...	.....	½, ½	.....	.....	.....	...	Ross.....	.....	.....	...	34x3½-36x6.....	.....	.....	104
105	W, Sheldon, W1501	N	B	2, R	.....	E, E	P, Parish.....	½, ½	Sheldon....	8, 10	39x2½-48x3....	L	Gemmer..	.....	W, Hoopes.	140	36x3½-36x5.....	3,550	52, 74	105
105a	W, Wisc., 800F..	Y	B	2, R	12¾, 11	E, E	R.....	½, ½	SpringPerch	...	41½x2½-54x2½..	L	Ross	51, 0	W, Ames..	144	35x5p-38x7p	4,600	55, 85	105a
106	W, Timken, 6460..	Y	B	2, R	10½, 11	E, E	R.....	½, ½	Mather....	8, 11	40x2½-54x3....	L	Gemmer..	.....	W, Standard	144	36x3½-36x5.....	3,900	60, 75	106
106a	I, Torbensen.....	...	.....	2, R	.....	...	.....	½, ½	.....	.....	.....	...	.....	.....	.....	146	36x6p-38x7p.....	4,150	.....	106a
107	W, Timken, 6460..	N	B	2, R	10½, 10	E, E	P, Parish & B..	½, ½	Perfection..	9, 9	36x2½-50x3....	L	Ross.....	56, 0	W, Bimel...	151	36x3½-36x6.....	3,850	51, 78	107
108	W.....	...	.....	2, R	.....	E, E	.....	½, ½	.....	.....	.....	...	Ross.....	.....	.....	144	36x4-36x6.....	.....	.....	108
109	B, Standard, C....	Y	B	2, R	10 , 12	C, E	P.....	½, ½	Marathon..	7, 12	36½x2-50½x3...	L	Gemmer..	56, 0	W, Moline..	130	33x4p-33x4.....	3,240	60, 70	109
110	I, Torbensen, A...	Y	B	2, R	11, 12½	C, E	P, Detroit.....	½, ½	Detroit....	8, 11	36x2½-50x3....	L	Jacox.....	50, 0	W, Bimel...	134	36x6p-36x6p.....	3,200	—, 90	110
111	W, Timken.....	...	.....	2, R	.....	E, E	P, Parish & B..	½, ½	Spring Perch	.....	.....	L	Ross.....	.....	W, Crane..	140	36x3½-36x5.....	.....	.....	111
112	W, Sheldon.....	Y	W	2, R	.....	E, E	R, Own.....	½, ½	Mather....	9, 11	38x2½-50x2½...	L	Ross.....	.....	W, Bimel...	136	36x3½-36x5.....	.....	.....	112
113	W, Own.....	Y	B	2, R	10½, 10½	F, F	P, Savage.....	½, ½	Perfection..	7, 11	37x2-54x2½....	L	Ross.....	44, 0	W, Prudden	140	34x3½-34x6.....	3,300	50, 80	113
114	W, Sheldon, W1501	Y	B	2, R	10, 10	E, E	P, Savage.....	½, ½	Iron City...	9, 13	40x2½-54x2½...	L	Gemmer..	51, 9	W, Jones...	144	34x3½-34x5.....	3,500	50, 70	114
115	W, Wisconsin.....	Y	B	2, R	10, 12	E, E	P, Own.....	½, ½	Maremont..	7, 9	35x2½-52x2½...	L	Lavine...	42, 0	W, Crane..	126	34x4-34x5.....	3,280	50, 75	115
116	I, Torbensen.....	...	.....	2, R	.....	E, E	P, Detroit.....	½, ½	Detroit....	.....	.....	L	.....	.....	W, Crane..	140	35x5-36x6.....	.....	.....	116
117	W, Wisc., 800H...	Y	W	2, R	10, 10	E, E	P.....	½, ½	Perfection..	9, 11	40x2½-48x2½...	L	Ross.....	54, 0	W, Bimel...	128	34x5-34x5.....	4,120	40, 70	117
118	W, Wisc., 800H..	Y	W	2, R	.....	E, E	P, Smith.....	½, ½	Mather....	8, 10	40x2½-53x2½...	L	Gemmer..	.....	W.....	144	36x3½-36x5.....	4,000	50, 90	118
118a	I, Torbensen.....	...	.....	...	.....	...	.....	...	Own.....	.....	.....	...	Ross.....	.....	.....	127	34x3½-34x5.....	3,725	.....	118a
119	W, Sheldon.....	Y	B	2, R	11, 11½	E, E	P, Parish & B..	½, ½	Penn.....	9, 9	39x2½-50x2½...	L	Ross.....	.....	W, Prudden.	145	35x5p-38x7p.....	.....	.....	119
120	W, Timken.....	...	.....	2, R	.....	...	P.....	½, ½	.....	.....	.....	...	Ross.....	.....	.....	144	34x3½-36x5.....	.....	.....	120
121	W, Standard, 603.	Y	B	2, R	10¼, 10	E, E	R, Own.....	½, ½	Mather....	8, 11	41x2½-56x3....	L	Ross.....	.....	W, Prudden.	136	34x3½-34x6.....	3,500	50, 70	121
121a	I, Clark.....	...	.....	2, R	.....	...	.....	½, ½	Detroit.....	.....	.....	...	Ross.....	.....	W, Bimel...	138	36x3½-36x5.....	3,600	.....	121a
122	W, Timken, 6560..	N	B	2, R	12½, 9	E, E	P, Detroit	½, ½	Mather....	9, 9	40x2½-54x3....	L	Gemmer..	46, 3	W, Auto....	144	36x3½-36x5.....	4,250	56, 69	122
123	W, Sheldon.....	...	.....	2, R	.....	E, E	R, Own.....	½, ½	Own.....	.....	.....	...	Ross.....	.....	I, Smith....	120	36x3½-36x5.....	.....	.....	123
123a	W, Own.....	...	.....	2, R	.....	...	.....	½, ½	Own.....	.....	.....	...	Lavine.....	.....	W, Standard	.....	34x5-34x5.....	3,200	.....	123a
124	W, Timken, 6460..	Y	W	2, R	12, 10½	E, E	P, Own.....	½, ½	Tuthill....	9, 12	44x2½-52x3....	L	Ross.....	42, 0	W, Prudden.	142	36x3½-36x5.....	3,800	50, 20	124
124a	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	R, Own.....	½, ½	Tuthill....	10, 11	42x2½-54x3....	L	Ross.....	48, 0	W, Western.	142	36x3½-36x6.....	4,700	45, 80	124a
125	W, Sheldon, W-1500	Y	B	2, R	13, 9½	E, E	P, Hydraulic..	½, ½	Mather....	6, 11	38x2-48x2½....	R	Jacox.....	.....	W, Wayne..	138	34x3½-34x5.....	3,600	55, 75	125
126	W, Timken, 6460..	N	B	2, R	10¾, 9½	E, E	P, Smith.....	½, ½	Detroit....	8, 10	36x2½-54x3....	L	Jacox.....	51, 0	W.....	130	36x3½-36x5.....	4,205	55, 74	126
127	I, Torbensen.....	Y	B	2, R	11, 12½	C, C	P, Detroit.....	½, ½	Detroit....	9, 12	42x2½-52x3....	L	Lavine...	48, 0	S, Disteel..	133	35x5p-36x6p.....	2,950	.. ,80	127
128	I, Clark.....	Y	B	2, R	11, 11	C, E	P, Own.....	½, ½	Perfection..	10, 11	40x2½-52x2½...	L	Ross.....	51, 0	W, Bimel...	138	36x3½-36x5.....	3,800	69, 90½	128
129	W, Standard.....	Y	B	2, R	11,	E, E	P, Own.....	½, ½	Perfection..	10, 11	40x2½-52x2½...	L	Ross.....	51, 0	W, Bimel...	138	36x3½-36x5.....	4,200	69, 90½	129
130	I, Torbensen, A...	Y	B	2, R	10, 10½	C, E	P.....	½, ½	Perfection..	11, 12	42x2½-50x2½...	L	Jacox.....	45, 0	W, Royer...	140	35x5p-38x7p.....	3,450	47½, 67	130
131	I, Clark.....	...	.....	2, R	.....	...	.....	½, ½	Garden City	.....	.....	...	Wohlrab..	.....	W, Royer...	142	35x5-35x5.....	3,200	.....	131
132	W, Sheldon.....	...	.....	...	.....	E, E	P, Own.....	...	Sheldon....	.....	.....	L	Ross.....	.....	W, Schwarz.	128	34x3½-34x5.....	.....	.....	132
133	I, Clark.....	...	.....	2, R	.....	C, E	R, Own.....	½, ½	Detroit....	.....	.....	L	Ross.....	.....	W, Bimel...	148½	34x3½-34x5.....	.....	.....	133
133a	W, Sheldon.....	...	.....	2, R	.....	...	.....	½, ½	Perfection..	.....	.....	...	Lavine.....	.....	S, Detroit..	130	36x6-36x6.....	3,100	.....	133a
133b	W, Sheldon.....	...	.....	2, R	.....	...	.....	½, ½	Sheldon....	.....	.....	...	Lavine.....	.....	W, E & O..	132	36x4-34x5.....	3,150	.....	133b
133c	W, Sheldon.....	...	.....	2, R	.....	...	.....	½, ½	Sheldon....	.....	.....	...	Ross.....	.....	N, Schwarz.	144	36x4-36x7.....	4,560	.....	133c
134	I, Torbensen.....	...	.....	2, R	.....	L, C	P.....	½, ½	Perfection..	.....	.....	...	Lavine.....	.....	W.....	140	34x3½-34x5.....	.....	.....	134
135	W.....	...	.....	2, R	.....	E, E	P.....	½, ½	Perfection..	.....	.....	...	Lavine.....	.....	W.....	140	34x3½-34x5.....	.....	.....	135
136	W. Hindley.....	...	.....	2, R	.....	E, C	P, Savage.....	½, ½	Perfection..	.....	.....	...	Ross.....	.....	W, Wayne..	148	34x4-34x5.....	.....	.....	136
137	I, Torbensen.....	...	.....	2, R	.....	C, E	P.....	½, ½	.....	.....	.....	...	Lavine.....	.....	W.....	135	34x3½-34x5.....	.....	.....	137
139	I, Own.....	...	B	2, R	10½, 11½	E, E	P.....	½, ½	.....	10, 14	41½x2½-56x3...	L	Own.....	.....	W.....	128	36x3½-36x5.....	3,400	50, 67	139

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3,000 (Jumbo)—4,000 (Day-Elder) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	3,000 Pounds—Con.																			
140	Jumbo, 15	2,850	Buda, CTU	4	3¾x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast.	Y	M, Fuller	S, 3	Fuller, LTU-5	Y	Arvac	140
141	Kalamazoo, G		Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	141
142	Kearns, N	2,000	Hers'l-Spill. 7000	4	3¾x5-19.6	FS	Pierce	T	B, Bush	N	Zenith	G	M, Berling	N	P, Borg & B	S, 3	Grant-Lees, 515	Y	Peters	142
143	Kelly-Sp'gf'd,K31.(ch'n)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Own	143
144	Kelly-Sp'gf'd,K32.(w'm)	3,000	Own	4	3¾x5½-19.6	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, GI	N	Spicer	144
145	Kissel, General Utility	2,775	Own	4	3¾x5½-24.0	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 3	Warner, T38	N	Spicer	145
146	Kleiber, A	3,100	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	146
147	K-Z	2,450	Continental, J4	4	3¾x5-22.5	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Thermoid	147
148	Larrabee, N		Continental, N	4	3¾x5-22.5	S	Simplex	T	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30	N	Universal	148
149	Maccar, L	2,925	Continental, C4	4	4¼x5½-27.2	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	149
150	Mack, AB(chain)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	150
151	Mack, AB(worm)	3,000	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	151
152	Mapleleaf, AA		Hinkley,HAA400	4	4x5½-25.6	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, LTU5	N	Blood	152
154	Master, JW	2,690	Buda, OU	4	4¼x5½-27.2	S	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Spicer	154
155	Maxwell	1,472	Own	4	3¼x4¼-21.3	S		T	T, Own	N	Eagle	G	B	N	C, Own	S, 3	Own	N	Thermoid	155
156	Menominee, H	2,725	Continental, C4	4	3¾x5-22.5	S	Monarch	T	C, G & O	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU2	N	Spicer	156
157	Moreland, 19B	3,125	Continental	4	4¼x5½-27.2	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	157
158	Myers, 80	1,875	Lycoming	4	3¼x5-19.6	FS	N	T	C, Standard	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 3	Grant-Lees	N	Universal	158
159	Napoleon, 11	1,860	Victory	4	3¼x5-19.6	F	N	T	T, Chicago	Y	Schebler	G	B	N	M, Fuller	S, 3	Fuller, TU1½	N	Universal	159
160	National, GA		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	C, McKinnon	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Spicer	160
161	Nelson & LeMoon, F1½		Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 3	Brown-L, 35		Thermoid	161
162	Noble, B30		Buda	4		FS	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU			162
163	Norwalk	1,750	Lycoming, K	4	3¼x5-19.6	FS	N		T, Chicago		Carter		B		P, Borg & B	S, 3	Grant-Lees, 515			163
164	O. K., K	2,675	Buda, ITU	4	4¼x5-32.4	FS	Pierce	T	T, R'me-T'r'y		Zenith		M, Eisemann		M Fuller	S, 3	Fuller, TU3		Hartford	164
165	Old Hickory, N	995	Lycoming, K	4	3¼x5-19.6			T	C, Standard		Carter		M, Conneotic		C, Lycoming	S, 3	Grant-Lees			165
166	Old Reliable, A	2,350	Wisconsin, EU	4	4x5-25.6	F	N	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	166
166a	Orleans	2 700		4	4x5½-25.6	F		P	T	N	Master	G	M, Eisemann	N	M	I, 3	Cotta			166a
167	Packard E C	3,850	Own	4	4x5½-25.6	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Spicer-Th	167
168	Paige, 52-19	2,880	Hinkl'y,HAA400	4	4x5½-25.6	F	Hinkley	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	168
169	Patriot, Lincoln	2,450	Hinkley,HAA400	4	4x5½-25.6	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Fuller, G5	N	Thermoid	169
170	Rainier, R6	2,450	Continental, N	4	3¾x5-19.6	FS	Monarch	T	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 25	Y	Hartford	170
171	Reliance, A10	2,500	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller, TU3	N	Peters	171
172	Republic, 11X	2,195	Continental, N	4	3¾x5-22.5	FS	Ruggles	T	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 3	Fuller, TU1½	N	Hartford	172
173	Reynolds, 3A	3,250	Hinkley	4	4x5½-26.5	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert	N	Thermoid	173
173a	Rowe, CW	2,800	Wisconsin	4	3¾x5-22.5	F	Simplex	P	C, Fedders		Zenith		M, Bosch		M	S, 4	Brown-L		Spicer	173a
174	Royal	2,800	Wisconsin	4	3¾x5-22.5		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			174
174a	Rumely, A			4	3¾x5½-22.5	FS		P	T			G	M	N	M	S, 3				174a
175	Sandow, CG	2,490	Continental, N	4	3¾x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1½	N	Spicer	175
176	Schwartz, B2	2,175	Continental, J4	4	3¾x5-22.5	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	176
177	Selden, 1½A	2,460	Continental, N	4	3¾x5-22.5	S	Pierce	T	T, Long	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S,	Brown-L, 30	N	Spicer	177
178	Service, 31 (solids)	2,985	Buda, IU	4	4x5½-25.6	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	178
179	Service, 36 (pneumatics)	3,415	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	179
180	Signal, H	2,925	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	180
181	Southern, 15	2,590	Continental, N	4	3¾x5-22.5	FS	Pierce	T	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	181
182	Sterling		Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	182
183	Stewart, 9	1,995	Continental, N	4	3¾x5-22.5	FS	N	T	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1½	N	Hartford	183
184	Stoughton, B	2,350	Waukesha, BUX	4	3¾x5½-22.5	FS	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe, 30		Thermoid	184
185	Sullivan, F	2,350	Buda, M	4	3¾x4½-22.5	S	N	T	T, Bush	N	Stromberg	G	M, Bosch	N	C, Hartford	S, 3	Covert, GI	N	Hartford	185
186	Texan, TK	1,525	Lycoming	4	3¼x5-19.6	FS	N	T	C, Own		Carter		B		P, Borg & B	S, 3	Muncie			186
187	Tiffin, GW	2,695	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 3	Fuller, GU3	Y	Peters	187
188	Tower, J	3,000	Continental, C4	4	4¼x5½-27.2	FS	N	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU	N		188
189	Transport, 30	2,250	Continental, N3½	4	3¾x5-22.5	F	Simplex	T	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Hartford	189
190	Traylor, C	2,875	Buda, ITU	4	4x5½-25.6	S	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 3	Covert	N		190
191	Triangle, A	2,350	Waukesha, BU4	4	3¾x5½-22.5	FS	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	191
192	Ultimate, A	3,200	Buda, ITU	4	4x5½-25.6	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	192
193	United	2,445	Buda	4	3¾x5½-22.5						Stromberg				M	S, 3	Brown-Lipe			193
194	Universal, G		Buda	4	3¾x5-22.5		Monarch	P	T, Bremer		Zenith		M, Eisemann		P, Own	S, 3	Own			194
195	U. S., N		Continental, N	4	3¾x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	195
195a	U. S., NW		Continental, N	4	3¾x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	195a
196	Velie, 46	2,200	Continental, N	4	3¾x5-22.5	FS	Monarch	T	T, Own	N	Stromberg	G	M, Berling	N	P, Borg & B	S, 3	Durston 034000	N	Arvac	196
197	Victor (Mich.), A		Continental, N	4	3¾x5-22.5	F	N	T	Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	197
198	Watson, 20		Waukesha, BUX	4	3¾x5½-22.5	S	Waukesha	P	T, R'me-T'r'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 35	N	M & E	198
199	White Hickory, H	2,750	Continental, N	4	3¾x5-22.5	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1½	N	Arvac	199
200	Wichita, L	2,600	Waukesha, BX	4	3¾x5½-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4		N	Thermoid	200
201	Wilcox, B		Own	4	4¼x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		201
202	Wilson	2,450	Continental, N	4	3¾x5-22.5	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35		Thermoid	202
203	Winther, 39 (rear drive)	2,450	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU1½	N	Peters	203
204	Winther, 430 (4-wh'l-dr)	2,850	Wisconsin, CAU	4	3¾x5-22.5	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU4	N	Peters	204
205	Wisconsin, B	1,750	Waukesha	4	3¾x5½-19.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			205
206	Witt-Will, N Special	2,150	Continental	4	3¾x5-22.5		Pierce	P	C, Bremer		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	206
207	Wolverine, C		Continental	4	3¾x5-22.5		Monarch	T	T, Long		Stromberg		M, Eisemann	Y	M, Fuller	S, 3	Fuller		Universal	207
	3,500 Pounds:																			
208	Air-O-Flex, C		Buda, CTU	4	3¾x5½-22.5	P	Duplex	F	T, Spirex	N	Stromberg	G	M, Splitdorf	Y	P, Borg & B	S, 4	Brown-L, 35	N	Thermoid	208
209	Oneida, B9	2,915		4	4x5-25.6	F	Own	P	C, Modine	N	Stromberg	G	M, Bosch	N	M	S, 3		N	Peters	209
	4,000 Pounds:																			
210	Acme, A	3,050	Continental, C4	4	4¼x5½-27.2	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, RU	N	Blood	210
211	Ateo, W20	2,875	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Hartford	211
212	Autocar, 21UF	2,300	Own	2	4¼x4½-18.0	S	N	P	T, Own	N	Stromberg	G	M, Bosch	N	P, Own	S, 3	Own	N	Spicer	212
214	Beck, C	2,350	Continental	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller, TU3	Y	Blood	214
215	Belmont, C	2,550	Buda, HU	4	4¼x5½-28.9	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N	Sterling	215
215a	Bethlehem, G	2,395	Own	4	4x5½-25.6	F	Pierce	T	C, Livingston	N	Zenith	G	M, Bosch	Y	P, Borg & B	S, 3	Detroit, DY	N	Universal	215a
216	Brinton, F	3,000	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Mayo	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50		Spicer	216
217	Collier, 20		Continental	4	4¼x5½-27.2		Monarch	P			Zenith		M, Eisemann		M, Fuller	S, 3	Fuller			217
218	Conestoga, 30	2,700	Continental, N	4	3¾x5-22.5	FS	Duplex	T	T, E & M	N	Stromberg	G	M, Simms	N	M, Fuller	S, 3	Fuller, TU3	N	Sterling	218
218a	Cook, 41	3,000	Hercules, CU3	4	4x5½-25.6			P	T, Own			G	M, Berling		P, Borg & B	S, 4			Blood	218a
219	Day-Elder, D	2,750	Continental, C2	4	4¼x5½-27.2	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Covert	S, 4	Covert, RU4NC	N	Hartford	219

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TRUCK SPECIFICATIONS

3,000 (Jumbo)—4,000 (Day-Elder)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
140	I, Clark, 1D	Y	B	2, R	11, 13½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	36x3½-36x5	4,350	50, 75	140
141	W, Wisc., 800F	N	W	2, R	9, 9½	E, E	R	½, ½	Sheldon	6, 11	40x2½-50x2½	L	Ross	51, 8	W, Bimel	144	36x4-36x5	5,080	—, 80	141
142	I, Torbensen, B	Y	S	2, R	14, 11	E, E	P	½, ½	Mather	6, 9	42x2½-52x3	L	Lavine		W, E & O	136	34x5½-34x6	3,620	68, 80	142
143	C, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10,11	40½x2½-43½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,590	50, 90	143
144	W, Own	N	B	2, R	11½, 10½	E, E	P	½, ½		10 12	40½x2½-47½x2½	L	Gemmer	48, 0	W	144	36x3½-36x6	4,685	50, 90	144
145	W, Sheldon, W-1500	Y	W	2, R	12⅝, 11	E, E	P, Smith	½, ½	Mather	10,11	38x2½-50x2½	L	Jacox	50, 0	W, Prudden	152	36x3½-36x5	4,000	51½, 69	145
146	W, Sheldon, W-103	Y	W	2, R	9½, 10½	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W, Waterh'se	143	36x3½-36x6	4,900	50, 75	146
147	W, Timken, 6460	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	7, 9	40x2½-50x3	L	Lavine	30, 2	W, St. M'ry	134	36x3½-36x5	4,000		147
148	W, Sheldon, W-1500	Y	B	2, R	10½, 9½	E, E	P, Savage	½, ½	Merrill	7, 9	38x2½-53x2½	L	Ross		W, Hoopes	130	34x3½-34x5	3,600	36, 88	148
149	W, Timken, 6460	N	B	2, R	10½, 10½	E, E	P, Parish	½, ½	Merrill	7, 12	42x2½-54x2½	L	Ross		S. Dayton	150	36x4-36x6	4,300	—, 70	149
150	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x3½d	4,800	46, 67	150
151	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 9	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x3½d	4,900	47, 69	151
152	W, Sheldon, W-103	Y	B	2, R	9, 9½	E, E	R, Own	½, ½	Sheldon		42x2½-50x3	L	Ross		W, Hayes	144	34x4-36x6	4,600	50, 70	152
154	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Detroit	8, 10	44x2-52x2½	L	Ross	42, 0	W, Prudden	142	34x3½-34x5	3,900	55, 78	154
155	W, Own	Y	W	2, R	13, 11	E, E	P	½, ½	Detroit	7, 12	38x2½-52x2½	L	Own	52, 2	W, Kelsey	124	32x3-32x4	2,550	50, 70	155
156	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	144	36x3½-36x5	4,000		156
157	W, Timken, 6456	N	W	2, R	10½, 8½	E, E	P	½, ½	U. S	6, 10	38x2½-48x3	L	Ross	50, 0	I. Smith	126	36x3½-36x5	4,150	50, 65	157
158	W, Chicago, C	Y	B	2, R	10½, 10	E, E	P, Parish & B	½, ½	Cleveland	8, 9	36x2-50x3	L	C.A.S		W, E & O	144	34x3½-34x5	3,200	50, 75	158
159	I, Clark, 1D	N	B	2, R	14, 13	C, C	R, Own	½, ½	Spring Perch	9, 12	35x2-46x2½	L	Lavine	48, 0	W, Royer	133	35x5p-36x5p	3,400	50, 65	159
160	W, Timken, 6460	Y	W	2, R	10½, 9½	E, E	P	½, ½	Coghlin	7, 10	40x2½-52x3	L	Ross	48, 0	W, Hayes	140	34x4-34x5			160
161	W, Timken, 6552	Y		2, R		E, E	R, Own	½, ½	Tuthill				Lavine		W, Prudden		36x3½-36x6			161
162	W, Sheldon, W-103			2, R		E, E	P, Slick-Knox	½, ½	Tuthill				Lavine		W, Bimel	144	36x3½-36x5	4,680		162
163	W, Chicago, C			2, R		E, E	P, Own	½, ½	Standard				Lavine		W, E & O	130	34x3½-34x5			163
164	W, Wisconsin			2, R		E, E	P, Savage	½, ½	Tuthill				Ross		W, Bimel	146	36x3½-36x5			164
165	B, Salisbury			2, R		C, E	R, Detroit	½, ½	Tuthill				Lavine		W, Bimel	112	33x4-33x4			165
166	W, Sheldon, W21	Y	W	2, R	11, 9½	E, E	P	½, ½	Sheldon	9, 13	39x2½-54x3	R	Ross		W, Prudden	138	34x4-36x6	4.150	—, 90	166
166a	W	N		2, R		E, E	R	½, ½			40x2½-52x3		Ross		I. Smith	142	36x3½-36x5			166a
167	W, Own	N	S	2, R	9¾, 9½	C, E	R, Own	½, ½		10, 11	41x2½-46x2½	L	Own	50, 0	W	144	34x3½-34x3½d	4,670	46, 67	167
168	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	9, 10	42x2½-52x3	L	Ross		W	140	34x3½-34x5	4,000	60, 75	168
169	W, Empire, N	Y	B	2, R	11, 11½	E, E	P, Detroit	½, ½	Cooper	8, 13	40x2½-52x2½	L	Ross	46, 6	W, Bimel	140	34x3½-34x5	3,900	45, 75	169
170	W, Sheldon, W-1500	Y	B	2, R	9½, 10	E, E	P, Parish	½, ½	Perfection	8, 14	38x2-50x2½	L	Lavine		W, Schwars	133	34x3-34x4	3,000	75, 75	170
171	E, Own	Y	W, Powrlok	2, R	10, 11½	E, E	P, Savage	½, ½	Sheldon	8, 11	36x2½-56x2½	L	Ross		W, Bimel	150	36x3½-36x5	4,500	35, 85	171
172	I, Torbensen, C2	Y	W, Powrlok	2, R		E, E	P, Detroit	½, ½	Mather	8, 15	39x2½-52½x2½	L	Jacox		W	144	34x4-34x6	3,300		172
173	W, Sheldon	Y	B	2, R	13½, 10½	E, E	R, Standard	½, ½	Perfection		40x2½-54x2½	L	Lavine		I. Smith	140	36x3½-36x6			173
173a	W, Sheldon			2, R		E, E		½, ½	Sheldon				Ross		W, Hoopes	133	36x6p-36x6p	3,850	—, 62	173a
174	W, Timken			2, R		E, E	R, Own	½, ½	Merrill				Ross		W	128½	34x4-34x5			174
174a	W	Y		2, R		E, E	P	½, ½		9, 11	40x2½-54x3	L			W	144	36x3½-36x5	3,950		174a
175	W, Sheldon, W1500	Y	W	2, R	9½, 9	E, E	P, Savage	½, ½	Garden City	7, 12	36x2½-52x2½	L	Ross	54, 0	W, Standard	135	34x3½-34x5	3,900	20, 70	175
176	I, Torbensen, B	Y	B	2, R	10, 11½	C, E	P, Parish	½, ½	Rowland	7, 13	38½x2½-54x3	L	Ross		W, Schwars	140	34x3½-34x5	3,600		176
177	W, Timken, 6460	Y	B	2, R	9½, 9½	E, E	P, Parish & B	½, ½	Perfection	10, 10	40x2½-50x2½	R	Lavine	48, 0	W	137½	34x3½-34x5	3,560	56, 75	177
178	W, Timken, 6460	Y	B	2, R	11½, 9½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	36x3½-36x6	4,850	—, 65	178
179	W, Timken, 6460	Y	B	2, R	11½, 10½	E, E	P, Own	½, ½	Mather	9, 11	42x2½-54x3	L	Ross	46, 0	W, Bimel	150	35x5p-38x7p	4,900	—, 65	179
180	W, Timken, 6460	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	10, 11	44x2½-56x3	L	Ross	53, 0	W, Hayes	144	34x4-36x6	4,760	—, 73	180
181	W, Sheldon	Y	W	2, R			P, Parish & B	½, ½	Mather		38x2½-54x2½	L	Ross		W, Royer	143	34x3½-34x5d			181
182	W, Timken, 6460	N	B	2, R	10½, 10½	E, E	P	½, ½	Mather	8, 10	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x3½-36x5	4,720	47, 91	182
183	I, Clark, 1D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	8, 11	41½x2½-54x3	L	Ross	49, 0	W, Wayne	140	34x3½-34x5	3,440	56, 70	183
184	W, Sheldon, W-1501	N	W	2, R	11½, 11	E, E	P, Smith	½, ½	Sheldon	9, 11	40x2½-50x2½	L	Lavine	51, 0	W, Bimel	140½	36x3½-36x5	3,500	49, 69	184
185	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	R, Own	½, ½	Merrill	9, 9	38x2-52x3	L	Ross	45, 0	W, Wayne	129	36x3-36x5	3,500	54, 68	185
186	W, Chicago			2, R		E, E	P, Parish & B	½, ½	Maremont				C.A.S		W	144	34x4p-34x5			186
187	W, Sheldon, W102	N	R	2, R	10, 12	E, E	P	½, ½	Kalamazoo	9, 11	40x2-48x2½	L	Ross	47,0	I. Smith	135	36x3½-36x5	3.650	40, 60	187
188	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		42x2½-52x2½	L	Ross		W, Royer	142	35x5p-38x7p	4,520	—, 75	188
189	I, Clark, 1D	Y	B	2, R	11½, 12½	C, E	P, Detroit	½, ½	Detroit	8, 10	40x2½-54x3	L	Jacox		W	140	36x3½-36x5	3,450	30, 70	189
190	W, Sheldon, W103	Y	W	2, R		E, E	P, Savage	½, ½			38x2½-50x2½	L	Ross		W, Schwars	138	36x4-36x6	4,700		190
191	I, Clark, 1D	Y	B	2, R	9½, 10	C, C	R, Mason	½, ½	Detroit	9, 11	42½x2½-54x2½	L	Gemmer	47, 6	W, Royer	144	34x3½-34x6	3,750	60, 80	191
192	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P	½, ½	Sheldon	9, 13	39x2½-52x2½	L	Ross	47, 0	W	140	36x3-36x5	4,500	50, 70	192
193	I, Clark			2, R			P	½, ½				L			W	145	34x3½-34x5			193
194	W, Own			2, R		E, E	P	½, ½	Kalamazoo				Lavine		W	133	34x3½-34x5			194
195	I, Clark, 1D	Y	B	2, R	11, 12½	C, E	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwars	144	36x3½-36x5	3,800	47, 85	195
195a	W, Sheldon, W1501	Y	B	2, R	11, 12½	C, E	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwars	144	36x3½-36x5	3,800	47, 85	195a
196	I, Torbensen, CT	Y	W, Powrlok	2, R	10½, 12	C, E	P, Dunbar	½, ½	Mather	8, 11	40x2½-54x3		Ross	46, 0	W, Bimel	133	36x3½-36x5	3,650	52½, 85	196
197	I, Clark	Y	B, W	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden	140	-x4—x5	3,250	80, 80	197
198	W, Empire, N	Y	B	2, R	10, 10½	E, E	P, Parish	½, ½	Sheldon		40x2½-52x3	L	Lavine		W, Crane	144	36x3½-36x5			198
199	W, Timken, 6460	Y	W	2, R	10, 10	E, E	P, Parish & B	½, ½	Sheldon	8, 10	41½x2½-50x3	L	Ross	51, 0	W, Bimel	144	36x3½-36x5	3.750	54, 76	199
200	W, Sheldon	Y	B	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit		40x2½-50x3	R	Ross		W	144	36x3½-36x5	4,100		200
201	W, Wisc., 800E	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 10	40x2½-52x3	L	Own		I. Smith	144	36x4-36x5	4,600	25, 75	201
202	W, Timken, 6460	Y	B	2, R	10½, 10½	E, E	R	½, ½	Perfection	8, 12	38x2½-52x2½	L	Ross		W	140	36x3½-36x5	3,800		202
203	I, Clark, 1D	Y	B	2, R	10, 11½	C, C	R, Own	½, ½	Harvey	9, 12	40x2½-48x2½	R	Lavine	56, 0	I, Own	140	34x3½-34x5	3,600	40, 75	203
204	I, Clark, 1D	Y	B	4, FR	11½, 10½	C, C	R	½, ½	Harvey	9, 12	40x2½-48x2½	L	Lavine	58, 0	I, Own	132	32x4-32x4	4,100	30, 60	204
205	W, Sheldon			2, R		E, E	P, Smith	½, ½					Lavine		W	136	34x3½-34x4			205
206	W, Timken			2, R		E, E	P, Parish	½, ½	Delaney			L	Ross		W, Arch'ld	120	36x3½-36x5			206
207	I, Russel			2, R		C, E	P, Parish & B	½, ½	Tuthill			L	Gemmer		W	140	34x3½-34x5			207
208	I, Russel, P1-300	N	B	2, R	15, 14	E, C	P	½, ½				L	Ross		W	150	36x3½-36x5	4.000	40 70	208
209	W	Y	B	2, R	10½, 10	E, E	P, Detroit	½, ½	Mather	9, 12	40x2½-56x3	L	Ross		W	144	36x3½-36x6	4,900	60, 85	209
210	W, Timken, 6560	Y	B	2, R	11½, 9½	E, E	P, Smith	½, ½	Detroit	8, 12	40x2½-52x3	L	Ross	54, 0	W, Bimel	148	36x4-36x7	4,450	50, 70	210
211	W, Wisc., 800J	Y	B	2, R	12½, 10½	E, E	P, Parish & B	½, ½	Sheldon	9, 11	41x2½-52x3	L	Ross	61, 2	I, Smith	150	36x4-36x7	4,800	53, —	211
212	S, Own	Y	B	2, R		C, E	P	½, ½	T			R	Own		W	97		3.600		212
214	I, Clark, 2	N	S	2, R	14, 13	C, E	P, Parish & B	½, ½	Higgins	8,13	40x2½-52x3	L	Lavine	48, 0	W, Bimel	144	36x7-40x8	3,800	30, 75	214
215	I, Clark, 2	N	B	2, R	11, 11	C, E	R, Savage	½, ½	Mather	9, 12	40x2½-52½x3	L	Lavine	52, 0	S. Clark	154	36x4-36x7	4,000	50, 80	215
215a	I, Russel, PI300	Y	B	2, R	10½ 11½	C, E	P, Detroit	½, ½	Mather	9, 10	40x2½-52½x3	L	Lavine	48, 0	W, Wayne	135	34x3½-34x6	4,450	—, 90	215a
216	W, Timken, 6560	N	W	2, R	11½, 9½	E, E	R, Own	½, ½	Philadelphia	12, 14	44x2½-50x3	L	Ross	40, 0	W, Schwars	150	36x4-36x6	4,500	45, 70	216
217	W			2, R		E, E	R	½, ½					Ross			152	36x4-36x7			217
218	W, Wisc., 800C	Y	W	2, R	11, 10	E, E	R, Own	½, ½	Iron City	9, 12	40x2½-52x3	L	Ross	50, 0	W, E & O	138	36x4-36x4d	4.200	50, 70	218
218a	I, Kennedy			2, R				½, ½	Perfection				Lavine		W, St. M'rys	152	36x6-38x7p	5.000		218a
219	W, Sheldon, W103	Y	B	2, R	11, 10½	E, E	P, Savage	½, ½	Iron City	10, 15	40x2½-54x2½	L	Gemmer	51, 9	W, Jones	144	36x4-36x7	4,250	50, 70	219

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4,000 (Dearborn—Wolverine) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	4,000 Pounds—Con.																			
220	Dearborn .48	2,590	Buda	4	3¼x5½-22.5	F	Simplex	T	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 3	Fuller	N	Hartford	220
221	Defiance, E	2,750	Own	4	3¼x5-22.5		N	P	C, Perfex		Stromberg			Y	P, Borg & B	S, 3	Grant-Lees			221
222	DeKalb, E2	2,250	Continental	4	4¼x5½-27.2		N	P	T, Jackson		Master		M, Eisemann		M, Fuller	S, 3	Fuller		Hartford	222
223	Denby, 134	2,800	Continental, N	4	3¼x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	223
224	Diamond T, U	2,835	Hinkley	4	4x5½-25.6	F	Unit Mot.	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 4	Covert	N	Spicer	224
225	Dorris, K4	3,400	Own	4	4½x5½-28.9	F	Own	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Warner, T53	S, 4	Warner, T53	N	Spicer	225
225a	Douglas, H (int.)	2,800	Buda	4	4½x5½-27.2	F	Pierce	P	T, Own		Schebler		M, Eisemann		M, Fuller	S, 3	Fuller		Arvac	225a
225b	Douglas, H (worm)	3,000	Buda	4	4½x5½-27.2	F	Pierce	P	Own		Schebler		M, Eisemann		M, Fuller	S, 3	Fuller		Arvac	225b
225c	Duty	1,490	Victory	4	——34.6	FS	N	T	C	N	Zenith	G	M, Simms	N	M, Covert	S, 3	Covert	N		225c
225d	Eagle	1,995	Buda, CTU	4	3¼x5½-22.5	F		P	C	N	Zenith	G	M, Eisemann	N	M, Covert	S, 3	Covert		M & E	225d
226	Erie			4	4¼x5½-27.2				T		Stromberg		M, Bosch		M	S, 4				226
227	Fargo, P	2,250	Continental, N	4	3¼x5-22.5	FS	Monarch	T	T, Own	N	Rayfield	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	227
228	Federal, UE	3,025	Continental, C4	4	4¼x5½-27.2	S	Pharo	P	T	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Detroit	N	Spicer	228
229	Forschler, B	2,750	Continental	4	4¼x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 3	Fuller		Own	229
230	Fulton, C	2,350	Herschell-Spill	4	3¼x5-19.6		Pierce	T	T, G & O		Carter		M, Simms	N	M, Covert	S, 3	Covert		Universal	230
231	Gabriel, E	3,250	Buda	4	4½x5½-28.9		Duplex	P	C, G & O		Rayfield		M, Bosch	N	P, Borg & B	S, 4	Brown-Lipe		Spicer	231
232	Garford, 70H	3,450		4	4½x5½-28.9	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		232
233	Giant, 16	3,250	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	C, Own	Y	Schebler	G,K	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	233
234	GMC, 41A		Continental, C2	4	4¼x5½-27.2	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	234
235	Gramm-Bernstein, 20	3,175	Continental, C2	4	4¼x5½-27.2	FS	Pierce	P	T, Own	Y	Stromberg	G	B, North East	N	M, Fuller	I, 4	Own	N	Own	235
235a	G. & J	3,850	Continental	4	4x5½-25.6	F	N	P	T	Y		G	M, Bosch	N	M	S, 4		Y		235a
236	Hal-Fur, D	2,250	Hinkley, HA400	4	4x5½-25.6	F	Hinkley	P	T, G & O		Strombreg	G	M, Bosch		P, Borg & B	S, 4	Brown-L		Peters	236
237	Hall	2,875	Continental, C4	4	4¼x5½-27.2	FS	Simplex	P	T, Long	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	237
237a	Hawkeye, M	2,915	Buda	4	4¼x5½-28.9		Simplex	P	T, Ideal		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller		Hartford	237a
238	Hendrickson	3,000	Buda, BU4R	4	4¼x5½-28.9	S		P	T, Chicago		Stromberg		M, Dixie		M, Fuller	S, 4	Fuller			238
238a	H & M, 2		Hercules	4	3¼x5-19.6	FS		T	T, G & O		Carter	G	M, Bosch		M, Fuller	S, 4	Fuller		Thermoid	238a
239	Independent (Iowa), F	2,490	Continental	4	4¼x5½-27.2		N	P	C, Chicago				M, Bosch	N	M, Fuller	S, 3	Fuller		Blood	239
240	Independent (Ohio), G	2,300	Continental	4	4¼x5½-27.2		Monarch	P	T, Long		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller		Sterling	240
240a	Indiana, 20	2,950	Own	4	4¼x5½-27.2	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35	N	Acme	240a
241	International, G	2,800	Own	4	4x5-25.6	FS	Own	T	T, Long, McC	Y	Ensign	G	M, Dixie	N	M, Own	S, 3	Own	Y	Own	241
242	Jumbo, 20	3,100	Buda, CTU	4	3¼x5½-22.5	F	N	P	T, Own	Y	Zenith	G	B, Northeast	Y	M, Fuller	S, 3	Fuller, LTU5	Y	Arvac	242
242a	J & J	3,200	Wisconsin, EAU	4	4x5-25.6	F	Monarch		T, Chicago	Y	Zenith	G	Swiss	N	P	I, 4	Cotta, RU	N	Universal	242a
243	Keldon, 19	2,885	Buda	4	4¼x5½-28.9		Waukesha	P	C, Eureka		Stromberg		M, Eisemann		P, Borg & B	S, 3	Covert		Acme	243
244	Keystone, 40	1,795	Own	4	4x4½-25.6		Pierce	T	T, McCord		Zenith		M, Berling	N	M, Fuller	S, 3	Fuller		Spicer	244
245	Kimball, B	3,675	Wisconsin, TU	4	4x6-25.6	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	245
246	Kleiber, BB	3,600	Continental, C4	4	4¼x5½-27.2	S	Pierce	P	C, Perfex	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 50-4	N	Spicer	246
247	Lange, B	2,950	Continental	4	4¼x5½-27.2		Pierce	T	T, Own		Stromberg		M, Bosch	N	M, Hele-Shaw	I, 3	Own		M & E	247
247a	Luedinghaus, K	2,790	Waukesha, RU4R	4	4¼x5½-28.9	F	Waukesha	P	T, Own	N	Schebler	G	M, Splitdorf	N	P, Borg & B	S, 3	Detroit		Spicer	247a
247b	Luverne, BBL		G, B & S	4	3¼x4½-22.5	S		T	C		Schebler	G	M, Bosch		M	S, 3	Detroit		Uni. Prod	247b
248	Mack, AB (chain)	3,300	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	248
249	Mack, AB (worm)	3,300	Own	4	4x5-25.6	S	Own	P	C, Own	N	Zenith	G	M, Aero	N	M, Brown-L	S, 4	Brown-L	N	Spicer	249
249a	Marshall, 2			4	3¼x5-19.6			T				G			P, Borg & B	S, 3				249a
250	Menominee, D	3,245	Continental, C4	4	4¼x5½-27.2	S	Monarch	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	250
251	Midland, MT	3,000	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		M, Fuller	S,	Fuller, JU2			251
252	Muskegon, 20	2,325	Continental	4	4¼x5½-27.2		Pierce	P	C, Mayo		Detroit		M, Eisemann	N	M, Fuller	S, 3	Fuller		Arvac	252
253	Mutual, 2A	3,375	Wisconsin, TAU	4	4x6-25.6	F	Duplex	P	C, Perfex	N	Stromberg	G	M, Bosch	Y	M, Hele-Shaw	S, 4	Fuller, G5	N	Spicer	253
254	Nash, 3018	2,550	Own	4	3¼x5½-22.5	FS	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	Y	P, Borg & B	S, 4	Detroit, H36	N	Own	254
255	Nash, 4017 Quad	3,250	Buda, HU	4	4¼x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Own	N	Own	255
256	National, HA		Waukesha RU4K	4	4¼x5½-28.9	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 35	N	Spicer	256
257	Netco, D	3,400	Continental, C4	4	4¼x5½-27.2	S	N	P	T, R'me-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Hartford	257
258	Niles, (Pa.), E	2,800	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	C, Modine	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Covert, O		Blood	258
259	Noble, C40		Buda	4	4x5½-25.6		Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller		M & E	259
260	Northway, B2	3,400	Own	4	4x6-25.6	FS	Pierce	P	C, G & O	Y	Stromberg	G	B	Y	M, Fuller	S, 4	Fuller, GU6	N	Spicer	260
261	Northwestern, WT	3,300	Continental, C4	4	4¼x5½-27.2	S		P	C, Mayo		Stromberg	G	M, Bosch		C, Hartford	S, 3	Covert		Blood	261
262	Olympic, A	3,300	Continental, C4	4	4¼x5½-27.2	FS	Monarch	P	T, Long		Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	262
263	Oshkosh, A	3,750	Her'l-Spill, 7000	4	3¼x5-19.6	FS	Duplex	T	C, Own	N	Zenith	G	B	Y	M, Brown-L	S, 4	Brown-L, 35	Y	Peters	263
265	Palmer	2,277	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	C, Fedders		Stromberg		M, Bosch		M, Fuller	S, 3	Fuller			265
267	Parker, F20		Wisconsin, TAU	4	4x6-25.6	F	Monarch	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Fuller, G	N	Blood	267
268	Pierce-Arrow, X4	3,750	Own	4	4x5½-25.6	F	Own	P	T, Own	N	Own	G	M, Splitdorf	N	C, Own	S, 4	Own	N	Own	268
269	Pioneer, F	2,790	Continental	4	4¼x5½-27.2		Pierce	P	T, McCord		Stromberg		M, Eisemann	N	M, Brown-L	S, 4	Brown-L		Spicer	269
270	Power, B	2,950	Continental, C2	4	4¼x5½-27.2	FS	Pierce	P	C, Candler	N	Stromberg	G	M, Simms	N	M, Fuller	S, 4	Fuller		Universal	270
271	Rainier, R8	2,900	Continental, N	4	3¼x5-22.5	FS	Monarch	P	C, Harrison	N	Zenith	G	M, Simms	N	M, Brown-L	S, 3	Brown-L, 30	Y	Hartford	271
271a	Ranger, C	2,575	Wisconsin, CAU	4	3¼x5-22.5	FS	Simplex	P	T	N	Zenith	G	M, Dixie	N	M	S, 3	Fuller	N	Universal	271a
272	Rowe, CDW	3,300	Wisconsin	4	4x5-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	272
273	Royal	3,200	Wisconsin	4	4x6-25.6		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own	N		273
274	Sandow, I	2,575	Continental, N	4	3¼x5-22.5	S	N	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Fuller, TU4		Spicer	274
275	Schacht	3,550	Buda, HU	4	4¼x5½-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 3	Own	N	M & E	275
276	Shaw, M3	2,700	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Long		Zenith		M, Bosch		M, Brown-L	S, 3	Brown-Lipe			276
277	Southern, 20	2,990	Buda, ITU	4	4x5½-25.6	FS	Pierce	T	T, Standard	N	Zenith		M, Bosch	N	P, Borg & B	S, 3	Fuller	N	Spicer	277
279	Sterling		Own	4	4x5½-25.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	279
280	Stewart, 7	2,495	Continental, C4	4	4¼x5½-27.2	FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Hartford	280
281	Stoughton, D	2,800	Hercules, CU3	4	4x5½-25.6	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 35		Thermoid	281
282	Sullivan, E	3,350	Buda, HTU	4	4¼x5½-28.9	S	N	P	T, Bush	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 35	N	Spicer	282
283	Superior, E	2,750	Continental, C2	4	4¼x5½-27.2	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	Y	Arvac	283
284	Traffic, C	1,495	Continental, N	4	3¼x5-22.5	FS	N	T	C, Own	N	Carter	G	M, Bosch	N	M, Covert	S, 3	Covert, MU-T	N	Universal	284
285	Transport, 50	2,785	Continental, C2	4	4¼x5½-27.2	FS	Duplex	P	C, Spirex	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	Hartford	285
286	Triangle, C	2,700	Waukesha, BU4	4	3¼x5½-22.5	S	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU3	N	Detroit	286
287	Triumph, H	2,850	Buda, CTU	4	3¼x5½-22.5	FS	Pierce	P	C, Modine	Y	Bennett	G	M, Dixie	N	P, Borg & B	I, 3	Cotta, AAU	N	Hartford	287
287a	Twin City 2 (Minn'p'l's)		Buda, ITU	4	4x5½-25.6	F	Simplex	P	C, Spirex		Schebler	G	M, Bosch		M, Fuller	S, 3	Fuller		Arvac	287a
287b	U. S., N. C		Continental, N	4	3¼x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	287b
287c	U. S., NP		Continental, N	4	3¼x5-22.5	FS	N	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 30	N	Blood	287c
288	Universal, D		Own	4	4½x5½-28.9		Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			288
289	Victor (Mich.), B		Continental, N	4	3¼x5-22.5	F	N	T	C, Modine		Stromberg		M, Eisemann		M, Fuller	S, 3	Fuller, LTU	Y	Acme	289
290	Vim, 22	3,150	Hercules	4	3¼x5½-22.5	F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	290
290a	Wells, C1	2,800	Weidely	4	4¼x5½-27.2	FS	Monarch	P			Stromberg	G	M, Berling		M	I, 4	Cotta		Acme	290a
291	White, 20	3,450	Own	4	3¼x5½-22.5	FS	N	P	C	N	Own	G	M		P, Own	S, 4	Own	N	Own	291
292	Wichita, M	2,800	Waukesha, BX	4	3¼x5½-22.5	F	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4		N	Thermoid	292
293	Winther, 49	3,250	Wisconsin, EAU	4	4x5-25.6	F	N	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	293
293a	Wolverine, D		Continental	4	3¼x5-22.5	FS	Monarch	T	T, Long	Y	Stromberg	G	M, Eisemann	Y	M, Fuller	S, 3	Fuller			293a

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TRUCK SPECIFICATIONS

4,000 (Dearborn—Wolverine)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
220	W, Wisconsin	Y	B	2, R	10½, 12	E, E	R, Own	½, ½	Maremont	7, 11	41½x2½-48x3	L	Ditweiler	49, 4	W, Crane	148	34x4½p-34x7	3,500	50, 80	220
221	I, Torbensen			2, R		E, E	P, Detroit		Detroit			L	Own		W, Crane	140	35x5p-38x7			221
222	W, Timken			2, R		E, E	P, Parish					L	Ross		W, Schwars	134	34x3½-36x5			222
223	I, Russel, 3-201	Y	B	2, R	12, 13	C, E	P, Detroit	½, ½	Detroit	8, 13	44x2½-52x3	L	Ross	57, 1	W, Hayes	144	36x3½-36x6	3,950	50, 75½	223
224	W, Timken, 6560	Y	W	2, R		E, E	P, Smith	½, ½	Mather	9, 12	40x2½-53x2½	L	Gemmer		W	160	36x4-36x7	4,800	50, 90	224
225	W, Timken, 6552	Y	W	2, R	11½, 9½	E, E	P, Smith	½, ½	Rowland	9, 15	42x2½-56x3	L	Ross	60, 0	I, Smith	144	36x4-36x7	5,050	86, 70	225
225a	I, Torbensen			2, R					Own				Ross			128	36x4-36x7	3,900		225a
225b	W, Wisconsin			2, R					Own				Ross			128	36x4-36x7	3,900		225b
225c	I, Russel			2, R	—, 12	E, C	R	½, ½				L		53, 0	W	134	34x3½-34x5	3,350		225c
225d	I, Russel	Y		2, R				½, ½		8, 16		L	Lavine		W	130	34x3½-34x6	4,100		225d
226	W, Timken			2, R			P				40x2½-54x3		Ross	50, 9		144	34x3½-36x5			226
227	I, Russel, U	Y	B	2, R	10, 12	E, C	R, Own	½, ½	Sheldon			L	Jacox		W	140	36x4-36x6	4,200	85, 80	227
228	W, Timken, 6560	N	B	2, R	12½, 9	E, E	P, Detroit	½, ½	Mather	9, 13	40x2½-54x3	L	Gemmer	50, 9	W, Auto	156	36x4-36x7	4,800	60, 71	228
229	W, Sheldon			2, R		E, E	R, Own					L	Ross		I, Smith	144	36x4-36x7			229
230	I, Russel			2, R		C, C	P, Parish & B	½, ½	Rowland			L	Lavine	48, 0	W, E & O	137	34x4-34x6			230
231	W, Timken			2, R		E, E	P, Parish		Merrill			L	Gemmer		W, Standard	156	36x4-36x7			231
232	W	Y	B	2, R		E, E	P	½, ½		9, 11	42x2½-50x2½	L	Ross	57, 0	W	144	36x4-36x7	4,590		232
233	W, Sheldon, W103	Y	B	2, R	12½, 10½	E, E	P, Hydraulic	½, ½	Mather	8, 10	40x2½-56x3	R	Ross		W, Wayne	168	36x4-36x7	4,500	55, 75	233
234	W, Timken, 6560	N	B	2, R	12½, 9½	E, E	P, Smith	½, ½	Detroit	8, 10	40x2½-54x3	L	Jacox		S, Own	144	36x4-36x7	4,855	53, 74	234
235	W, Sheldon, W103	Y	B	2, R	11, 10½	E, E	P, Own	½, ½	Perfection	11, 12	40½x2½-52x2½	L	Ross	51, 0	W, Bimel	144	36x4-36x7	5,100	72, 91	235
235a	W	Y		2, R		E, E	R	½, ½			40x2½-54x3	L			W	146	36x4-36x7	4,900		235a
236	W, Timken			2, R				½, ½	Perfection				Gemmer		W, Standard		35x5p-35x5p	3,400		236
237	W, Timken, 6552	Y	W	2, R	12, 9	E, E	R	½, ½	Perfection	9, 12	40x2½-54x3	L	Gemmer		I, Smith	156	36x4-36x4	4,825	25, 80	237
237a	I, Clark			2, R		C, E	R, Own	½, ½	Detroit			L	Ross		W, Bimel	148½	36x4-36x6			237a
238	W, Timken			2, R					Tuthill				Ross		W	140	36x4-37x7			238
238a	I, Torbensen			2, R				½, ½	Mather				Lavine			144	34x4-38x7p	3,400		238a
239	I, Russel			2, R		C, E	R, Own		Garden City			L	Lavine		W, Prudden	146	34x4-34x6			239
240	W, Wisconsin			2, R		E, E	P, Parish & B		Iron City			L	Ross		S, Indestruct	144	34x4-34x6			240
240a	W, Sheldon, W-103	N	B	2, R	12½, 10½	E, E	R	½, ½	Sheldon	9, 11	40x2½-50x3	L	Wohlrab	48, 0	W, Bimel	150	36x4-36x7	5,360	58, 68½	240a
241	I, Own		B	2, R	10½, 12	E, E	P	½, ½		10, 14	39½x2½-55½x3	L	Own		W	138	36x4-36x6	4,060	50, 68	241
242	I, Clark, 1D	Y	B	2, R	11, 15½	C, E	P	½, ½	Perfection	9, 11	40x2½-52x2½	L	Jacox	35, 0	W	144½	35x5p-38x7p	4,510	50, 75	242
242a	I, Russel	Y	B	2, R	11, 11	C, E	R, Own	½, ½	Mather	8, 12	34x2½-40x3	L	Lavine	48, 0	W, Bimel	134	34x4-34x6	4,000	45, 80	242a
243	I, Russel			2, R		C, E	R, Own	½, ½	Champion			L	Ross		I, Smith	144	36x4-36x7			243
244	I, Russel			2, R		E, E	R, Own		Rowland			L	Ross		W, Wayne	144	34x4½p-36x5			244
245	W, Sheldon, W102	Y	B	2, R		E, C	P, Parish	½, ½	U. S	10, 11	40½x2½-47x2½	L	Ross	39, 6	W, Weston		36x6p-36x7		50, 80	245
246	W, Timken, 6560	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 11	44x2½-52x3	R	Ross		W, Waterb'se	153	36x4-36x7	5,300	50, 75	246
247	C, Own			2, R		C, E	R, Own		Standard			L	Gemmer		W, Hoopes	136	36x4-36x6			247
247a	W, Wisconsin, J	N	B	2, R	10½, 10½	E, E	P, Parish & B	½, ½	Tuthill	9, 12	42x2½-54x3	L	Lavine		W, Bimel	145	36x4-36x7	4,400	—, 80	247a
247b	I			2, R				½, ½					Lavine		W, Own	136	34x4p-34x5			247b
248	C, Own	N	B	2, R	13½, 13½	C, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x4d	4,900	47, 70	248
249	W, Timken	Y	W	2, R	13½, 9½	E, E	P, Own	½, ½	Merrill	8, 11	40x2½-48x3	L	Own	50, 0	W, Schwars	Opt.	36x4-36x4d	5,000	48, 70	249
249a	W			2, R				½, ½								132	34x5-34x5			249a
250	W, Timken, 6552	N	B	2, R		E, E	R, Own	½, ½	Tuthill	10, 11	43x2½-52x3	L	Ross		W, Standard	160	36x4-36x4d	4,700		250
251	W, Timken, 6552			2, R		E, E	R, Own	½, ½					Ross		I, Smith	144	36x4-36x4d			251
252	I, Torbensen			2, R		C, E	P, Parish & B	½, ½	Sheldon			L	Lavine		W, Prudden	144	36x4-36x6			252
253	W, Sheldon, W21	N	B	2, R	11, 9½	E, E	P, Parish & B	½, ½	Mather	8, 10	41x2½-56x3	L	Ross	52, 0	I, Smith	152	36x4-36x8	5,800	40, 71	253
254	I, Clark, 2D	Y	W	2, R	9½, 9½	C, C	P, Own	½, ½	Alloy	10, 12	37½x2½-52x2½	L	Jacox	50, 0	W, Auto	144	34x4-34x6	3,850	51, 73½	254
255	I, Own	Y	W	4, FR	14½, 14½	C, E	P, Own	½, ½	Mather	9, 8	48x2½-48x2½	L	Lavine	50, 0	S	124	36x5-36x5	6,250	33½, 55	255
256	W, Timken, 6560	N	W	2, R	10½, 9	E, E	R	½, ½	Mather	9, 11	40x2½-54x3	L	Ross	26, 0	W, Hayes	141	34x4-34x4d	5,000		256
257	W, Timken, 6560	Y	B	2, R	12, 11	E, E	P	½, ½	Perfection	8, 12	39x2½-49x3	L	Ross		W, Arch'ld	168	36x4-36x7	4,940	57, 65	257
258	W, Timken, 6550	N	W	2, R	11, 9	E, E	P, Savage	½, ½	Iron City	9, 14	45x2½-53x3	L	Gemmer		W, Hoopes	140	36x4-36x7	4,600		258
259	W, Sheldon			2, R		E, E	P, Slick-Knox	½, ½	Spring Perch			L	Lavine		W, Bimel	148	36x4-36x7	4,900		259
260	W, Sheldon, W21	Y	B	2, R	14, 9	E, E	P, Parish & B	½, ½	Perfection	9, 10	42x2½-54x3	L	Ross	50, 0	S, Clark	146	36x4-36x4d	5,300	58½, 77½	260
261	W, Sheldon			2, R				½, ½	Sheldon				Ross			164	34x4-36x7	4,900		261
262	W, Timken, 6560	N	B	2, R	10, 10	E, E	P, Savage	½, ½	Mather	7, 12	39x2½-50x3	L	Ross		W, St. M'r'y	158	36x4-36x7	4,850		262
263	B, Own	Y	B	4, FR	10½, 10½	C, C	P, Smith	½, ½	Tuthill	10, 11	50x2½-54x2½	L	Ross	52, 0	W, Bimel	130	36x6p-36x6p	4,200		263
265	W, Own			2, R		E, E	P, Own	½, ½	Tuthill				Ross		W, Bimel	150	34x4-36x4d			265
267	W, Own	N	B	2, R	9½, 10	C, E	P, Smith	½, ½	Tuthill	8, 12	51x3-60x3	L	Ross	56, 0	W, Bimel	150	34x4-36x4d	5,200	51, 71	267
268	W, Own	N	S	2, R	13, 9½	C, E	P, Parish	½, ½	Spring Perch	10, 13	41x2½-54x3	R	Own	42, 0	W, Own	150	36x4-36x4d	6,250	60, 75	268
269	W, Timken			2, R		E, E	P, Parish					L	Ross		S, Budd	144	36x4-36x7			269
270	W, Timken	Y		2, R		E, E	R, Own	½, ½	Detroit		44x2½-56x3	L	Ross		W, Hayes	150	36x4-36x4d			270
271	W, Sheldon, W103	Y	B	2, R	9½, 10½	E, E	P, Parish	½, ½	Perfection	9, 12	38x2½-50x2½	L	Ross		W, Schwars	147	34x5-34x6	3,450	75, 75	271
271a	W, Timken, 6460	N	B	2, R	10, 9	E, E	P, Detroit	½, ½	Perfection	9, 13	40x2½-50x2½	L	Ditweiler	50, 0	W, St. M'rys	136	34x3½-34x5	3,600	40, 70	271a
272	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	140½	34x4-36x3½d	4,500	—, 62	272
273	W, Timken			2, R		E, E	R, Own		Merrill				Ross			132	36x4½-36x6			273
274	I, Torbensen, C2	Y	B	2, R	13, 13½	C, E	P, Savage	½, ½	Garden City	8, 12	38½x2½-54x3	L	Ross	60, 0	W, Standard	150	36x4-36x6	4,300	20, 70	274
275	W, Own	N	B	2, R	11, 9	C, E	R, Own	½, ½	National	9, 14	35x2½-50x3	L	Own		W, St. M'rys	156	36x4-36x7	5,500	—, 70	275
276	W, Timken			2, R			P, Smith		Perfection				Gemmer		W	153	36x4-36x6			276
277	W, Sheldon	Y	W	2, R			P, Parish & B		Mather		38x2½-54x2½	L	Ross		W, Royer	157	35x3-35x5			277
279	W, Timken, 6560	N	B	2, R	12½, 10	E	P, W	½o ½o	Mather	8, 11	48x3-54x3	L	Ross	57, 2	W, Prudden	142	36x4-36x6	5,000	45, 97	279
280	I Clark, 2D	Y	B	2, R	10, 10	C, C	P, Hydraulic	½, ½	Detroit	9, 12	41x2½-54x3	L	Ross	50, 0	W, Wayne	156	34x4-34x7	4,460	59 72	280
281	W, Sheldon, W103	N	W	2, R	12½, 10½	E, E	P, Detroit	½, ½	Sheldon	9, 12	40x2½-50x3	L	Lavine	51, 0	W, Bimel	140½	36xe-s6x7	4,600	4[illegible], 69	281
282	W, Timken, 6560	Y	B	2, R	10½, 10	E, E	Parish & B	½, ½	Sheldon	9, 11	40x2½-52x3	L	Ross	52, 0	W, Wayne	150	36x4-36x7	4,750	53, 71	282
283	I, Torbensen, CE	Y	B	2, R	13, 13	C, E	P	½, ½	Tuthill	8, 13	38x2½-51x3	L	Ross	46, 0	W, Schwars	144	36x4½-36x6	3,600	75, —	283
284	I, Russel, PI-302	Y	B	2, R	11, 12	C, E	R, Own	½, ½	Detroit	9, 10	36½x2-46x2½	L	Own	48, 6	W, Bimel	132	34x3½-34x5	3,175	42, 85	284
285	I, Clark, 2D	Y	B	2, R	10½, 11½	C, E	P	½, ½	Detroit	9, 13	40x2½-54x3	L	Jacox		W	150	36x6p-40x8p	4,250	50, 70	285
286	I, Clark, 2D	Y	B	2, R		C, C	R, Mason	½, ½	Detroit	10, 12	42½x2½-54x3	L	Gemmer	56, 0	W, Royer	147	36x4-36x6	4,200	60, 80	286
287	I, Russel, P-300	Y	B	2, R	12, 13½	C, E	R	½, ½	Higgins	9, 11	36x2½-50x2½	L	Lavine	46, 0	W, Standard	144	36x[illegible]-36x5	4,200	40, 70	287
287a	I, Clark			2, R				½, ½	Mather				Ross		W, Bimel	150	36x6p-40x8p	4,800		287a
287b	I, Clark, 1D	Y	B	2, R	11, 12½	E, C	P	½, ½	Sheldon	9, 10	38½x2½54x2½	L	Lavine	50, 0	W, Schwars	144	35x5p-38x7p	3,800	47,85	287b
287c	W, Sheldon, W1501	Y	B	2, R	11, 12½	E, C	P	½, ½	Sheldon	9, 10	38½x2½-54x2½	L	Lavine	50, 0	W, Schwars	144	35x5p-38x7p	3,800	47, 85	287c
288	C, Own			2, R		E, C	P	½, ½	Kalamasoo				Lavine		W	132	36x5-36x4d			288
289	I, Clark	Y	BW	2, R	12, 12	C, E	R, Own	½, ½	Tuthill	7, 10	36x2½-48x3	L	Ross		W, Prudden	140	—x4—x5	3,250	80, 80	289
290	W, Sheldon, W102	Y	W	2, R	12½, 10	E, E	P	½, ½	Sheldon	9, 12	42x2½-56x3	L	Gemmer	37, 10	I, Smith	142	36x4-36x6	4,700	40, 70	290
290a	I												Lavine		I, Smith	168	36x4-36x8	4,400		290a
291	B, Own	N	B	2, R	10½, 9	C, E	P	½, ½				L	Own	60, 0	W	157½	36x4-36x7	4,150	54, 70	291
292	W, Sheldon	Y	B	2, R	9½, 10½	E, E	P, Own	½, ½	Detroit		40x2½56x3	R	Ross		W	144	36x3½-36x6	4,400		292
293	I, Clark, 2D	Y	B	2, R	12, 11	C, C	R, Own	½, ½	Mather	8, 10	46x2½-56x3	R	Ross	60, 0	I, Own	147	34x4-34x4d	5,300	45, 80	293
293a	I, Russel	Y		2, R			P	½, ½			40x2½-54x3				W	144	34x4-34x3½d			293a

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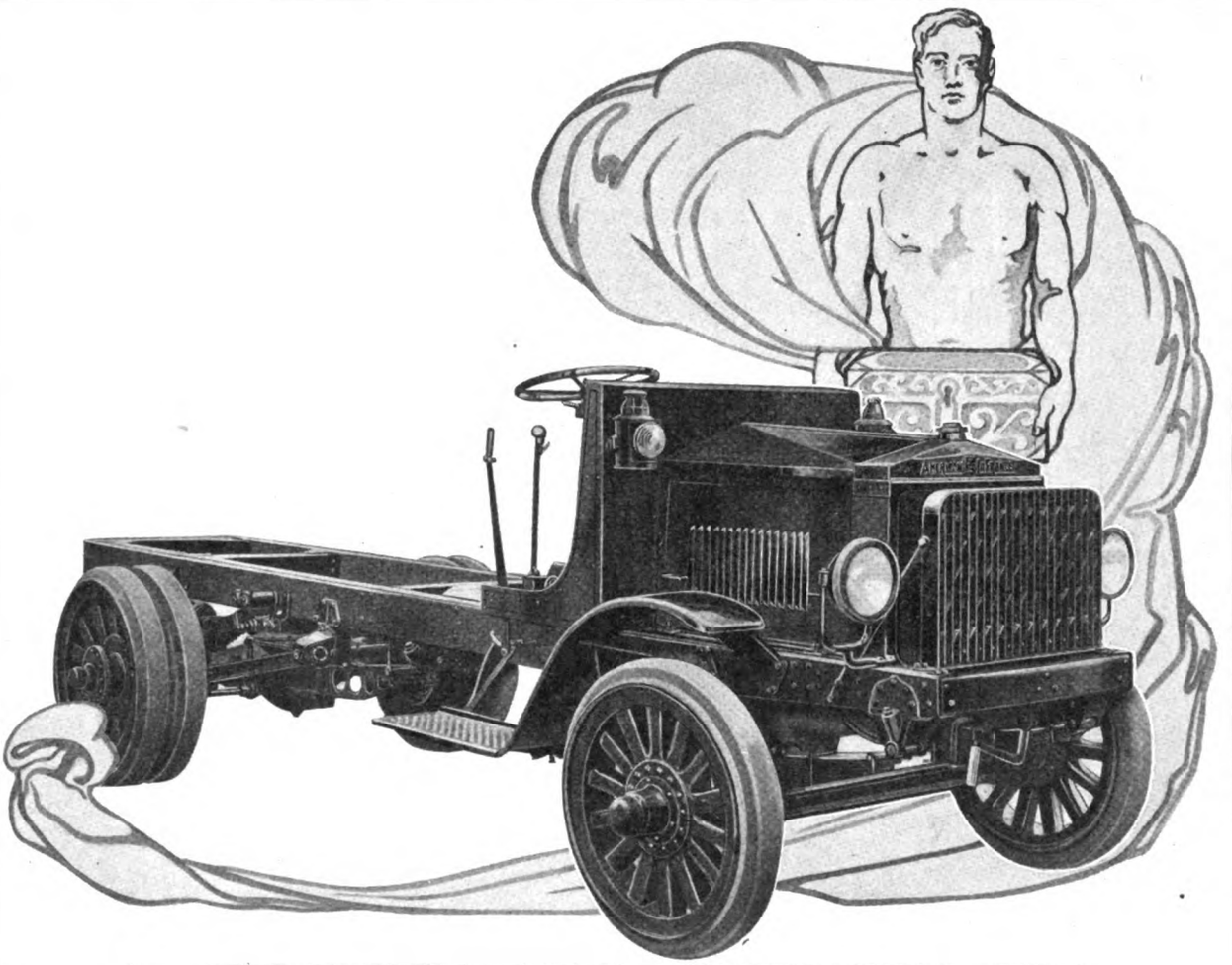

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299	Available, H2½	3,475	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Ther.-Sp	299
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301	Bell	2,750	Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 3	Detroit	Y	Universal	301
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333	Kelly-Sp'gf'ld, K36(w'm)	3,500	Own	4	3½x5½-22.5	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, O	N	Spicer	333
334	Kimball, C	3,975	Wisconsin, UU	4	4½x6-28.9	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	334
335	Kissel, Freighter	3,475	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	335
336	Kleiber, B	4,200	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'n'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	336
337	Koehler, M	3,365	Hercules, CU3	4	4x5½-25.6	F	Simplex	P	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	337
338	K-Z	3,200	Continental, C4	4	4½x5½-27.2	S	McCanna	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	338
339	Larrabee, SK		Continental, C4	4	4½x5½-27.2	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	339
340	L.M.C, 2-20	2,540	Continental, C2	4	4½x5½-27.2	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	P, Borg & B	S, 4	Detroit, H	N	Baker	340
341	Maccar, H	3,750	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 3	Brown-L, 50	N	Spicer	341
342	Mapleleaf, BB		Hinkley, HA500	4	4½x5½-28.9	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	342
342a	Master, D, (int.)	3,540	Buda, HU	4	4½x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342a
342b	Master, W, (worm)	3,290	Buda, HU	4	4½x5½-28.9	F	McCanna	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	Y	Spicer	342b
343	Midland, S	3,150	Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-L, 50			343
344	Moreland, 19C	3,900	Continental	4	4½x5½-32.4	FS	N	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	344
344a	Nelson & LeMoon, F2½		Continental	4	4½x5½-27.2		Pierce	P	T, Chicago		Stromberg		M, Bosch	N	M, Brown-L	S, 3	Brown-Lipe		Thermoid	344a
345	Neteo, H	3,800	Continental, E4	4	4½x5½-32.4	S	N	P	T, R'e-T'r'y	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	345
346	Noble, D50		Buda	4	4½x5½-28.9		Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 4	Fuller		M & E	346
347	Ogden, C2	2,995	Continental, C2	4	3½x5-22.5	S	Pierce	P	T, Chicago	Y	Rayfield	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 30		Acme	347
347a	O. K., L	3,450	Buda, HTU	4	4½x5½-28.9	FS	Pierce	P	T, R'me-T'n'y		Zenith		M, Eisemann		M, Fuller	S, 3	Fuller, GU5		Hartford	347a
348	Old Reliable, B	3,250	Wisconsin, UU	4	4½x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	348
348a	Oneida, C9	3,390	Hinkl'y, HAA400	4	4x5½-25.6	F	Own	P	C, Modine	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G5	N	Peters	348a
348b	Orleans	3,150		4	4½x5½-27.2			P	T	N	Master	G	M, Eisemann	N	M	I, 4	Cotta			348b
349	Paige, 54-20	3,400	Hinkley, HA500	4	4½x5½-28.9	F	Simplex	P	T	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	349
350	Patriot, Washington	3,450	Hinkley, HA	4	4½x5½-32.4	F	Hinkley	P	T, Own	N	Stromberg	G	M, Splitdorf	N	M, Covert	S, 4	Covert, RA4	N	Thermoid	350
350a	Pittsburgh, B		Continental, C4	4	4½x5½-27.2	F	Monarch	P	T, G & O		Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L		Spicer	350a
351	Reliance, B20	3,200	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Bush	N	Stromberg	G	M, Eisemann	Y	M, Fuller	I, 4	Cotta, R	N	Peters	351
352	Republic, 19	2,797	Continental, C2	4	4½x5½-27.2	FS	Pharo	P	C, Own	N	Stromberg	G	M, Bosch		M, Fuller	S, 4	Fuller, GU5	N	Spicer	352
353	Reynolds, 5A	3,800	Hinkley	4	4½x5½-28.9	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	353
354	Rowe, CDW	3,575	Wisconsin	4	4x5-25.6	F	Simplex	P	T, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	354
355	Royal	3,500	Wisconsin	4	4½x6-28.9		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			355
356	Sandow, J	3,175	Continental, C4	4	4½x5½-27.2	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	356
357	Sanford, W25	3,350	Continental, C4	4	4½x5½-27.2	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 35	N	Spicer	357
358	Schacht	3,850	Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 3	Own	N	M & E	358
359	Schwartz, C2	2,675	Continental, K4	4	4½x3½-27.2	F	Pierce	P	C, Fedders	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 3	Brown-L, 50	N	M & E	359
360	Selden, 2½A	3,550	Continental, C4	4	4½x5½-27.2	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	360
361	Service, 51	3,475	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	361
361a	Signal, J	3,275	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	361a
361b	Standard, 76	3,100	Continental, C2	4	4½x5½-27.2	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	361b
362	Sterling		Own	4	4½x5½-30.6	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	362
362a	Success, B	2,850	Continental, C4	4	4½x5½-27.2	F	Monarch	P	C		Zenith	G	M, Eisemann		M, Fuller	S, 4	Fuller, GU5		Uni. Prod	362a
363	Super, 50		Wisconsin, TAU	4	4x6-25.6	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Thermoid	363
364	Tiffin, MW	3,580	Continental, C4	4	4½x5½-27 2	FS	Pierce	P	T, Own	Y	Schebler	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	Y	Peters	364

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TRUCK SPECIFICATIONS

5,000 (Acason—Tiffin)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 2-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
294	W, Timken, 6560..	Y	W	2, R	13, 10	E, E	P, Savage	½, ½	Detroit	10, 14	42x2½-56x3½	L	Ross		I, Smith	150	36x4-36x8	4,850	—, 76	294
295	W, Timken, 6560..	Y	W	2, R	11½, 9½	E, E	P, Parish & B.	½, ½	Mather	10, 12	39x2½-54x3	L	Ross	60, 0	S. Davton	156	36x6p-40x8p	5,650	25, 60	295
295a	W, Sheldon, W21.	N		2, R		E, E	R, Own	½, ½	Sheldon	12, 14	40x2½-52x3	L	Ross		W	150	36x4-36x4d		50, 70	295a
295b	I, Torbensen		W, Powrlok	2, R			P	½, ½		10½ 12	40x2½-54x3				W	130	34x4-34x6			295b
295c	W, Wisconsin			2, R				½, ½	Perfection				Lavine		I, Smith	158	36x4-34x4d	5,000		295c
296	I, Torbensen	Y	B	2, R	11, 13½	C, E	R	½, ½	Detroit	10, 13	39½x2½-52½x3	L	Lavine		W, Bimel	150	36x4-36x6	4,510	—, 66	296
297	W, Timken, 6560..	N	W	2, R	10, 10	E, E	P, Smith	½, ½	Mather	7, 9	44½x2½-59x3	L	Ross	52, 0	W, St. M'rys.	148	36x4-36x4d	4,600	60, 80	297
298	W, Timken, 6560..	Y	B	2, R	15, 9½	E, E	P	½, ½	Spring Perch	9, 12	41½x2½-54x3	R	Gemmer	55, 9	W, Arch'b'ld	153½	36x4-36x4d	5,070		298
299	W, Wisc., 900C	N	W	2, R	11, 10	E, C	R, Own	½, ½	Tuthill	9, 14	40x2½-52x3	L	Ross	44, 0	W, Schwars.	152	36x4-36x8	5,000	55, 75	299
300	W, Timken	N	W	2, R	14, 12	C, E	P	½, ½	Higgins	9, 15	40x2½-52x3½	L	Lavine	48, 0	W, Bimel	144	36x5-36x8	4,200	30, 75	300
301	I, Russel	Y	B	2, R	11,14	C, E	R, Own	½, ½	Detroit	9, 14	42x2½-56x3	L	Gemmer	52, 0	W, Bimel	146	34x4-34x6	4,200	50, 70	301
302	I	N	B	2, R	9½, 12	C, E	P	½, ½	Perfection	10, 12	41½x2½-56x3	L	Ross		W, Schwars.	158	36x4-36x4d	4,625	50, 75	302
303	W, Timken, 6560..	Y	B	2, R	11, 9	E, E	P, Parish & B.	½, ½	Temme	8, 14	40x2½-55x3	L	Ross	35, 0	S, Dayton	150	36x4-36x7	4,750	75, —	303
304	W			2, R				½, ½								156	36x4-Opt	5,500		304
305	W, Timken, 6560..	N	B	2, R		E, E	P, Parish	½, ½	Merrill	10, 13	43x2½-51½x3	L	Gemmer		W, Hoopes	152	36x4-36x7	4,850	54, 84	305
305a	W, Wisc., 900C	Y	B	2, R	11½, 9½	E, E	R	½, ½	Spring Perch		42x3-56x3½	L	Ross	54, 0	S, Detroit		36x4-36x8	5,100	55, 85	305a
306	W, Timken, 6560.	Y	B	2, R	12 ,9	E, E	R, Own	½, ½	Mather	9, 13	40x2½-54x3	L	Gemmer		W, Standard	156	36x4-36x7	4,610	60, 75	306
307	W, Timken, 6560..	N	B	2, R	11½, 9	E, E	P, Parish & B.	½, ½	Perfection	7, 10	44x3-52x3	L	Ross	48, 0	I, Smith	163	36x4-36x8	4,950	60, 80	307
307a	W, Timken, 6560..	N	B	2, R	11½, 9	E, E	P, Parish & B.	½, ½	Perfection	7, 10	44x3-52x3	L	Ross	48, 0	I, Smith	163	36x4-36x8	5,000	60, 80	307a
308	I, Russel, NI-400..	Y	B	2, R		C, E	R	½, ½	Perfection	9, 11	40x2½-52x3½	L	Own		W, St. M'rys.	144	36x4-36x7	5,100		308
309	W, Timken			2, R		E, E	P, Parish & B.		Spring Perch			L	Ross		W, Crane	150	36x4-36x4d			309
309a	W, Sheldon			2, R				½, ½	Sheldon				Ross		W, Bimel	152	36x4-36x7	5,225		309a
310	W, Own	Y	B	2, R	10½, 10½	E, E	P, Savage	½, ½	Perfection	8, 11	39x2½-56x3	L	Ross	50,0	W, Prudden	150	36x4-36x7	4,750	50, 80	310
311	W, Sheldon, W21.	Y	B	2, R	12½, 9½	E, E	P, Savage	½, ½	Iron City	9, 14	42x2½-56x3	L	Gemmer	54, 0	W, Jones	150	36x4-36x7	5,000	50, 70	311
312	W, Timken			2, R		E, E	P, Parish		Mather			L	Ross		W, Schwars.	136	36x4-36x6			312
314	W, Wisc., 900C	Y	W	2, R	10, 10	E, C	P	½, ½	Perfection	11, 14	42x2½-52x3	L	Ross	36, 0	W, Bimel	157	36x4-36x7	5,600	40, 70	314
315	C			2, R		E, E	P	½, ½							W	156	36x5-36x7			315
316	W, Timken						P						Ross			160	34x4-36x5			316
317	W, Timken, 6560..	Y	B	2, R	9½, 10	E, C	R, Own	½, ½	Mather	9, 13	41x2½-56x3	L	Ross	56, 1	W, Prudden	144	34x4-36x7	4,600	50, 71	317
318	W, Timken, 6560..	Y	W	2, R	12, 10½	E, E	P	½, ½	Tuthill	11, 13	44x2½-52x3	L	Ross	42, 0	W, Prudden	148	36x4-36x7	4,850	50, 20	318
319	W, Own			2, R		C, E	R, Own	½, ½	Tuthill				Ross		W, Jones	150	36x4-36x7			319
320	W, Own			2, R		C, E	R, Own	½, ½	Tuthill				Ross		W, Jones	150	36x4-36x7			320
321	W, Standard	Y	B	2, R		E, E	P, Own	½, ½	Perfection		46x2½-58x3	L	Ross	59, 6	I, Smith	150	36x4-36x4d	6,800	73¾, 91	321
323	W, Timken			2, R			P		Delaney				Ross		W	156	36x4-36x4d			323
324	W, Timken			2, R		E, E	P, Parish & B.		Spring Perch			L	Gemmer		S, Massillon	168	35x5-36x7			324
325	W, Sheldon			2, R		E, E	R, Own		Sheldon			L	Ross		W, Schwars.	150	36x4-36x7			325
326	W, Timken			2, R				½, ½	Tuthill				Ross		W, Standard		36x4-36x7			326
326a	W, Sheldon			2, R				½, ½	Sheldon				Ross		W, Schwars	154	36x4-36x4d	5,310		326a
327	W, Hindley			2, R		E, C	P, Savage	½, ½	Perfection				Ross		W, Wayne	170	36x4-36x4d			327
328	W, Sheldon, W21.	N	B	2, R	12½, 9½	E, E	R	½, ½	Sheldon	9, 14	40x2½-50x3	L	Wohlrab	50, 0	W, Bimel	156	36x4-36x8	6,000	61, 71½	328
329	I, Clark, 2D	Y	B	2, R	10, 11½	C, E	P	½, ½	Perfection	9, 14	40x2½-54x3	L	Jacox	45, 0	S, Clark	152½	36x4-36x7	5,190	50, 75	329
330	W, Sheldon, W21.	N	W	2, R	9½, 9	E, E	R	½, ½	Sheldon	8, 13	42x2½-56x3	L	Ross	34, 3	I, Smith	160	36x4-36x8	6,200	—, 80	330
331	I, Russel, S	Y	B	2, R	9, 13½	C, E	R, Own	½, ½	Temme	9, 11	39½x2½-49½x3	L	Ross		W, Bimel	170	34x4-34x6	4,200	30, 70	331
331a	W, Sheldon			2, R				½, ½	Sheldon				Ross		I, Smith	148	36x4-36x8	5,700		331a
332	C, Own	N	B	2, R	9½, 16	E, E	P	½, ½	Perfection	11, 13	40x2½-44x2½	L	Gemmer	48, 0	W	144	36x4-36x4d	5,200	50, 90	332
333	W, Own	N	B	2, R	9½, 9½	E, E	P	½, ½	Perfection	11, 12	40x2½-47½x3	L	Gemmer	48, 0	W	144	36x4-36x4d	5,540	50, 90	333
334	W, Sheldon, W21.	Y	B	2, R		E, C	P, Parish	½, ½	U. S	11, 13	40½x2½-50½x3	L	Ross	39, 6	I, Smith		36x6p-36x8		50, 80	334
335	W, Timken, 6560.	Y	W	2, R	10½, 10	E, E	P, Smith	½, ½	Mather	10, 11	38x2½-54x3	L	Lavine	50, 0	W, Prudden	168	36x4-36x7	5,200	57½, 76	335
336	W, Sheldon, W21.	Y	W	2, R	9½, 9½	E, E	R, Own	½, ½	Betts	8, 14	44x3-52x3	R	Ross		W, Wat'rh'se	160	36x4-36x8	5,900	50, 75	336
337	W, Timken, 6560.	Y	B	2, R	12, 9½	E, E	P, Parish & B.	½, ½	Mather	10, 12	40x2½-56x3	L	Lavine		W, Wayne	162	36x4-36x7	5,000	50, 75	337
338	W, Timken, 6560.	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	8, 10	40x2½-50x3	L	Lavine	64, 8	W, St. M'rys.	150	36x4-36x8	4,800		338
339	W, Sheldon, W21.	Y	B	2, R	15, 10	E, E	P, Parish & B.	½, ½	Merrill	9, 13	41x2½-54x3	L	Ross		W, Hoopes	156	36x4-36x7	5,200	42, 86	339
340	I, Russel, S	Y	B	2, R	10½, 14½	C, E	R, Chopper	½, ½	Mather	9, 11	42x2½-56x3	L	Lavine	47, 0	W, Bimel	164	36x4-36x4d	4,500	53, 75	340
341	W, Timken, 6560.	N	B	2, R	12½, 10	E, E	P, Parish	½, ½	Merrill	8, 12	42x2½-56x3	L	Ross		S, Dayton	162	36x4-36x4d	5,000	—, 70	341
342	W, Sheldon, W21.	Y	B	2, R	11½, 9½	E, E	R, Own	½, ½	Sheldon		44x2½-54x3	L	Ross		W, Hayes	150	36x4-36x4d	5,500	50, 70	342
342a	I, Walker	Y	BS	2, R		C, E	P, Parish & B.	½, ½	Detroit	11, 13	44½x2½-52x3	L	Ross	42, 0	S, Walker	144	34x4-36x7	4,300	53, 76	342a
342b	W, Timken, 6560.	Y	B	2, R	9½, 10½	E, E	P, Parish & B.	½, ½	Detroit	11, 13	44½x2½-52x3	L	Ross	42, 0	W, Prudden	144	34x4-36x7	4,500	53, 76	342b
343	W, Sheldon, W21.					E, E	P, Parish & B.	½, ½	Sheldon				Ross		I, Smith	150	36x4-36x7			343
344	W, Timken, 6552.	N	W	2, R	12, 10	E, E	P	½, ½	U. S	10, 11	39½x2½-50x3½	L	Ross	50, 0	I, Smith	144	36x4-36x7	5,400	50, 65	344
344a	W, Timken, 6560	Y		2, R		E, E	R, Own	½, ½	Tuthill			R	Lavine		W, Prudden		36x4-36x7			344a
345	W, Timken, 6560..	Y	B	2, R	12, 11	E, E	P	½, ½	Perfection	10, 15	39x2½-49½x3	L	Ross		W, Arch'b'ld	168	36x4-36x8	5,120	57, 65	345
346	W, Sheldon			2, R		E, E	P, Slick-Knox		Spring Perch			L	Lavine		W, Bimel	150	36x4-36x8	5,700		346
347	W, Timken	Y	B	2, R	10, 10	E, E	P, Garden City	C, C	Tuthill	8, 10	38x2½-50x2½	L	Gemmer		W, Standard	160	36x3½-36x4	3,400	—, 70	347
347a	W, Wisc., 900			2, R		E, E	P, Savage	½, ½	Liggett				Ross		W, Bimel	150	33x4-36x8			347a
348	W, Sheldon, W21.	Y	W	2, R	10½, 9½	E, E	R	½, ½	Sheldon	9, 14	46x3-54x3	R	Ross		W, St. M'rys.	160	34x4-36x4d	5,750	—, 70	348
348a	W, Wisc., 900C	N	B	2, R	10½, 9	E, E	P, Detroit	½, ½	Mather	9, 13	40x2½-56x3	L			W	160	36x3-36x7	5,200	60, 85	348a
348b	W	N		2, R		E, E	R	½, ½			42x2½-54x3	L	Ross		I, Smith	160	36x4-36x7			348b
349	W, Timken	N	B	2, R		E, E	P	½, ½	Perfection	11, 11	45x2½-54x3	L	Ross		S, Dayton	150	34x4-34x8	5,200	60, 75	349
350	W, Empire, O	Y	B	2, R	10, 10½	E, E	P, Detroit	½, ½	Cooper	10, 15	44x2½-56x3		Ross	51, 10	W, Bimel	156	36x4-36x7	5,200	49, 82	350
350a	W, Sheldon			2, R				½, ½	Iron City				Ross		I, Smith	160	36x5-36x7	5,500		350a
351	E, Badger	Y	W, Powrlok	2, R	10, 10½	E, E	P, Savage	½, ½	Sheldon	9, 11	46x2½-58x2½	L	Ross		W, Bimel	156	36x4-36x4d	5,500	40, 85	351
352	I, Torbensen, C2	Y	W, Powrlok	2, R		E, E	P, Detroit	½, ½	Mather	9, 13	38½x2½-52½x3	L	Jacox		W	144	36x4-36x7	4,200		352
353	W, Sheldon	Y	B	2, R	11, 9½	E, E	R, Standard	½, ½	Perfection		40x2½-54x3	L	Lavine		I, Smith	154	36x4-36x8			353
354	W, Sheldon, W21.			2, R		E, E	R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	162	34x4-36x4d	4,500	—, 64	354
355	W, Timken			2, R		E, E	R, Own		Merrill				Ross		W	132½	36x4½-36x6			355
356	W, Timken, 6560.	Y	W	2, R	9½, 9½	E, E	P, Savage	½, ½	Garden City	8, 13	38½x2½-54x3	R	Ross	36, 0	W, Standard	165	36x4-36x7	4,660	20, 70	356
357	W, Sheldon, W21.	Y	W	2, R	11, 9½	E, E	P, Parish & B.	½, ½	Perfection	9, 13	42x2½-52x3	L	Ross	58, 0	W, Hoopes	174	36x4-36x4d	5,330	73, 87	357
358	W, Own	N	B	2, R	11, 9	C, E	R, Own	½, ½	National	9, 14	35x2½-50x3	L	Own		W, St. M'rys.	156	36x4-36x4d	6,000	—, 70	358
359	I, Torbensen, D	Y	B	2, R	10, 11½	C, E	P, Parish	½, ½	Rowland	10, 15	40½x2½-54x3	L	Ross		W, Schwars.	150	34x4-34x7	4,200		359
360	W, Timken, 6560.	N	B	2, R	12, 10½	E, E	P, Parish & B.	½, ½	Perfection	9, 14	40x2½-54x3	R	Gemmer	54, 0	S	145	36x4-36x7	5,400	52, 75	360
361	W, Timken, 6560.	Y	B	2, R	12, 9½	E, E	P	½, ½	Mather	10, 14	42x2½-54x3	L	Ross	48, 0	W, Bimel	160	36x4-36x7	5,180	—, 70	361
361a	W, Timken, 6560.	N	B	2, R	11, 11	E, E	P, Savage	½, ½	Detroit	10, 13	44x2½-56x3	L	Ross	60, 0	W, Hayes	150	34x4-36x8	5,210	—, 76	361a
361b	W, Timken, 6560.	N	B	2, R	12, 9½	E, E	R, Own	½, ½		8, 12	38x2½-54x3	L	Ross		W	140	36x4-36x7	4,430	59, 71	361b
362	W, Timken, 6560.	N	B	2, R	12½, 10	E, E	P	½, ½	Mather	8, 12	48x3-54x3	L	Ross	52, 9	W, Prudden	156	36x4-36x4d	5,500	58, 88	362
362a	W, Sheldon			2, R				½, ½	Sheldon				Lavine			144	34x4-36x7	4,700		362a
363	W, Sheldon, W21.	N	B	2, R	11½, 9½	E, E	P	½, ½	Sheldon	10, 12	40x2½-50x3	L	Lavine	49, 0	W	156	36x4-36x8	5,250		363
364	W, Sheldon, W21.	Y	B	2, R	10, 11	E, E	P	½, ½	Kalamazoo	11, 14	44x2½-50x3	L	Ross	52, 0	I, Smith	148	36x4-36x3½d	4,890	40, 60	364

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5,000 (Titan)—7,000 (Larrabee) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	5,000 Pounds—Con.																			
365	Titan	3,400	Buda, HTU	4	4½x5½-28.9	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, AU	N	M & E	365
366	Tower, H	3,475	Continental, C4	4	4½x5½-27.2	S	Pierce	P	T, Own	N		G	M, Eisemann	N	M, Fuller	S, 3	Fuller, TU	N		366
366a	Transport, 50	2,785	Buda, HTU	4	4½x5½-28.9	F	Duplex	P	C	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	Hartford	366a
367	Traylor, D	3,375	Buda, MTU	4	4½x5½-28.9	F	Pierce	P	T, G & O	N	Zenith	G	M, Dixie	N	M, Covert	S, 4	Covert	N		367
368	Triangle, B	2,950	Waukesha, FU	4	4½x5½-25.6	FS	Waukesha	P	T, Perfex	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	Y	Detroit	368
369	Ultimate, B	3,750	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	369
370	Union, F	3,150	Wisconsin, TAU	4	4x6-25.6	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	370
371	United, B	3,150	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			371
372	Vulcan, 25	3,750	Wisc., UAU	4	4½x6-28.9	F	Pierce	P	T	Y	Zenith	G	M, Eisemann	N	M, Brown-L, 50	S, 4	Brown-L, 50	N	Spicer	372
373	Walker-Johnson, B	3,500	Buda, HU	4	4½x5½-28.9	F	Pierce	P	T,		Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L	N	Spicer	373
374	Ward LaFrance, 2B	3,590		4	4½x5½-30.6	F		P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	M & E	374
375	Watson, 19		Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	T, R'e-T'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 35	N	Spicer	375
375a	White Hickory, K	3,350	Continental, C2	4	4½x5½-27.2	FS	Simplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	N	M & E	375a
376	Wichita, R	3 000	Waukesha, BX	4	3½x5½-22.5	P	Waukesha	P	C, Perfex	Y	Stromberg	G	M	N	C	I, 4		N	Thermoid	376
376a	Wichita, RX	3,600	Beaver, JB	4	4½x6-28.9	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	I, 4		N	Thermoid	376a
377	Wilcox, C		Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		377
378	Wilson	3,150	Continental, C4	4	4½x5½-27.2	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Thermoid	378
379	Winther, 450	3,690	Wisconsin, EAU	4	4x5-25.6	F	N	P	T, Bremer	N	Stromberg	G	M, Eisemann	N	M, Fuller	S, 3	Fuller, LTU5	N	Peters	379
380	Wisconsin, C	2,850	Waukesha	4	4x5½-25.6		Waukesha	P	T, Chicago		Master		M, Eisemann		M, Fuller	S, 3	Fuller			380
381	Witt-Will, P	2,950	Continental	4	4½x5½-27.2		Pierce	P	C, Modine		Zenith		M, Eisemann	N	M, Brown-L	S, 3	Brown-Lipe		Spicer	381
	6,000 Pounds:																			
381a	Ace	3,650	Buda, HU	4	4½x5½-28.9	FS	Pierce	P	C, Modine	Y	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller	N	M & E	381a
382	A & B, 3T	4,500	Own	4	5½x4½-42.8		N	P	T, Bush		Schebler		M, Bosch	N	N	* 2	*		Franck	382
383	Beck, D	3,500	Continental	4	4½x5½-32.4	F	Pierce	P	C, Ideal	Y	Stromberg	G	M, Bosch	N	M, Cotta	I, 3	Cotta	Y	Blood	383
384	Beech Creek, 3A	3,850	Waukesha	4	4½x5½-28.9		Waukesha	P			Master		M, Eisemann		M, Fuller	S, 3	Fuller			384
384a	Bethlehem, H	2,795	Own	4	4x5½-25.6	F	Pierce	P	C, Livingston	N	Zenith	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, GU	N	Universal	384a
384b	Denby, 25	3,600	Continental, C2	4	4½x5½-27.2	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	384b
384c	Douglas, I	3,500	Buda	4	4½x5½-28.9		Pierce	P	T, Own		Schebler		M, Eisemann		M, Fuller	S, 4	Fuller		Arvac	384c
385	Forschler, BX	3,450	Continental	4	4½x5½-27.2		Duplex	P	T, Own		Zenith		M, Bosch		M, Fuller	S, 4	Fuller		Own	385
386	FWD, B	4,900	Wisconsin, A	4	4½x5½-36.1	FS	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	M, Hele-Shaw	I, 3	Cotta, DAF	N	Blood	386
387	Jumbo, 30	3,950	Buda, HU	4	4½x5½-28.9	F	Duplex	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU5	Y	Arvac	387
388	Kimball, K	4,400	Wisconsin, AU	4	4½x5½-36.1	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	388
389	MacDonald, A	5,750	Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own		Stromberg	G	M, Splitdorf		M, Brown-L	S, 4	Brown-L		Own	389
390	Packard, ED	4,900	Own	4	4⅝x5½-28.0	F	Own	P	C, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther.-Sp.	390
391	Riker, B	4,600	Own	4	4½x6-28.9	S	Own	P	T	N	Own	G	M, Berling	N	C, Own	S, 4	Own	N	Own	391
392	Rowe, GSW (4-cyl.)	4,150	Wisconsin	4	4x6-25.6	F	Simplex	P	C, Fedders		Zenith		M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe	N	Spicer	392
393	Rowe, GPW (8-cyl.)	5,250	Pittsburgh	8	3½x5-35.2	F	N	P	C, Fedders		Zenith	G	Atwater-K	Y	M, Brown-L	S, 4	Brown-Lipe	Y	Spicer	393
393a	Stoughton, F	3,600	Hercules, MU2	4	4½x5½-28.9	F	Duplex	P	T, Chicago	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Thermoid	393a
393b	U. S., R		Hink'y HAA400	4	4x5½-25.6	F	Hinkley	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 35	N	Blood	393b
394	Vim, 23	3,950	Hercules	4	4½x5½-28.9	F	Duplex	P	T, McCord	N	Zenith	G	M, Dixie	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	394
395	Walter (N. Y.), T		Waukesha, CU	4	4½x5½-30.6	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Brown-L, 50		M & E	395
396	White, 40	4,500	Own	4	3½x5½-22.5	F	Own	P	T, Own	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	396
	7,000 Pounds:																			
397	Acason, L	4,500	Waukesha, CU	4	4½x5½-30.6	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Detlaff, H5	I, 4	Cotta, R	Y	Blood	397
398	Acme, C	4 050	Continental, E7	4	4½x5½-32.4	FS	Duplex	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	N	Blood	398
398a	Aetna	4,375	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	Y	Zenith	G	M		P, Borg & B	I, 4	Cotta, S	N	Spicer	398a
399	All-Power, SV4	5,800	Continental	4	4½x5½-32.4		Pharo	P	T, McCord		Zenith		M, Eisemann	Y	M, Detlaff	I, 3	Cotta		Universal	399
400	Armleder, KW		Buda, YTU	4	4½x6-32.4	F		P	T, Long	N	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU	N	Spicer	400
401	Atterbury, 7D	4,175	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Zenith	G	M	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	401
402	Available, H3½	4,475	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Ther.-Sp.	402
403	Belmont, D	3,550	Buda, YU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, G	N	Sterling	403
404	Brockway, R2	4,100	Continental, E4	4	4½x5½-32.4	S	N	P	T, Bush	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	404
405	Capital, M3½	4,150	Wisc., UAU	4	4½x6-28.9	F	Simplex	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Detlaff	I, 4	Cotta	N	Thermoid	405
406	Chicago, C3½	3,800	Hercules, MU3	4	4½x5½-32.4	F	Simplex	P	T, Own	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Peters	406
407	Clydesdale, 90C	4 400	Own	4	4½x5½-32.4	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	407
408	Dart, W	4,000	Buda, YU	4	4½x6-32.4	F	Pierce	P	C, Own	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, HU	Y	Spicer	408
409	Day-Elder, F	3,750	Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 50	N	Hartford	409
411	Diamond T, K	3,925	Hinkley	4	4½x5-28.9	FS	Unit Mot.	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Covert	S, 4	Covert	N	Spicer	411
412	Dorris, K7	4,400	Own	4	4½x5½-28.9	F	Own	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Warner	S, 4	Warner, T53	N	Spicer	412
413	Duplex, E	4,250	Buda, TU	4	4½x5½-28.9	S	Duplex	P	T, Long	N	Schebler	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Peters	413
414	Erie		Continental	4	4½x5½-32.4		Pierce		T		Stromberg		M, Bosch			S, 4				414
415	Fageol	5,000	Waukesha, DU	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	415
416	Federal, WE	3,950	Continental, E4	4	4½x5½-32.4	S	Pharo	P	T	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner	N	Spicer	416
418	Garford, 77D	4,390		4	4½x6-32.4	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		418
419	Gary, KL	4,150	Buda, YTU	4	4½x6-32.4	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	419
419a	Gersix, L	4,500	Buda, YTU	4	4½x6-32.4	F	Monarch	P	C, Ideal	N	Stromberg	G	M, Bosch	N	P, Borg & B	I, 4	Cotta, S	N	Blood	419a
420	Giant, 17	4,450	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	C, Own	Y	Stromberg	G,K	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N		420
421	GMC, 71A		Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	421
422	Gramm-Bernstein, 35	4,375	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	422
423	Hall	4,100	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	423
424	Harvey, WHA	4,300	Buda	4	4½x6-32.4		Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe		Spicer	424
424a	Hawkeye, N		Buda, YTU	4	4½x6-32.4	F	Simplex	P	C	N	Zenith	G	M, Eisemann	Y	M, Fuller	I, 4	Cotta	Y	Hartford	424a
425	Hendrickson	3,900	Buda	4	4½x5½-28.9		Pierce	P	T, Chicago		Stromberg		M, Dixie	N	M, Fuller	S, 4	Fuller			425
426	Hurlburt, C	4,400	Buda, YTU	4	4½x6-32.4	PS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50			426
427	Indiana, 35	3,750	Own	4	4½x5½-30.6	F	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	427
428	International, L	4,500	Own	4	4½x5-28.9	FS	Own	T	T, Long, McC	Y	Ensign	G	M, Dixie	N	M, Own	S, 4	Brown-L	N	Own	428
429	Jackson, C1920	4,250	Continental	4	4½x5½-32.4		Pierce	P	T, Long		Stromberg		M, Eisemann		P, Borg & B	S, 4	Own		Spicer	429
430	Jumbo, 35	4,550	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	430
431	Kalamazoo, K		Waukesha, UAU	4	4½x6-28.9	F	Pierce	P	T, G & O	Y	Stromberg	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Acme	431
432	Kelly-Sp'gfld K40(ch'n)	4,400	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C	S, 3	Covert, K	N	Own	432
433	Kelly-Sp'gfld K41 (int.)		Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	433
434	Kelly-Sp'gfld K42(w'm)		Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Covert, SA4	N	Spicer	434
435	Kissel, Heavy Duty	4 475	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	435
436	Kleiber, C	4,900	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, R'e-T'n'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	436
437	K-Z	4,400	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Thermoid	437
438	Larrabee, SL		Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	438

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TRUCK SPECIFICATIONS

5,000 (Titan)—7,000 (Larrabee)

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line no.
365	I, Clark, 2D	N	B	2, R	11, 14	E, C	P, Parish & B.	½, ½	Sheldon	9, 11	46x2½-54x3	L	Wohlrab.	38, 0	W	156	34x4-36x4d	4,975	51, 78	365
366	W, Timken	N	B	2, R	11, 11	E, E	P	½, ½	Detroit		44x2½-56x3	L	Ross		W, Prudden	146	36x4-36x7	5,230	—, 75	366
366a	I, Clark, 2D	Y	B	2, R	11½, 13	C	E P, Detroit	½	Detroit	9,13	40x2½-54x3	L	Jacox		W	150	36x4-36x7	4,250	30, 70	366a
367	W, Sheldon, W21.	Y	W	2, R		E, E	P, Savage	½, ½			40x2½-52x3	L	Ross		W, Schwarz.	150	36x43-6x7	5,500		367
368	I, Clark, 2D	Y	B	2, R	13, 11	C, C	R	½, ½	Detroit	10, 12	42½x2½-54x3	L	Gemmer	56, 0	W, Royer	151	36x4-36x7	4,900	60, 80	368
369	W, Sheldon, W21.	N	B	2, R	10, 9½	E, E	P	½, ½	Sheldon	10, 16	39x2½-52x3	L	Ross	49, 0	W	154	36x4-36x4d	5,340	50, 70	369
370	I, Russel, T	Y	B	2, R	13, 16	C, E	P, Own	½, ½	Mather	8, 14	44x2½-56x3	L	Ross		W, Prudden	152	36x5-36x8	5,100	50, 70	370
371	I, Clark, 2D			2, R		E, C	P, Detroit	½, ½	Detroit				Jacox		W	151	36x4-36x7			371
372	W, Sheldon	N		2, R		E, E	P	½, ½			45x2½-55x3	L	Ross		I, Smith	148	36x4-36x8			372
373	W, Timken	Y		2, R		E, E	P	½	SpringPerch	8, 16			Ross		W	150	36x4-36x8	5,200	—, 70	373
374	W, Timken, 6560.	N	W	2, R	12½, 9½	E, E	P, Detroit	½, ½	Merrill		40x2½-54x3	L	Ross		W	158	36x4-36x4d	5,400	—, 85	374
375	W, Empire, O	Y	B	2, R	11, 10	E, E	P, Parish	½, ½	Sheldon		42x2½-54x3	L	Gemmer		W, Crane	156	36x4-36x7			375
375a	W, Timken, 6560.	Y	W	2, R	12, 9½	E, E	P, Parish & B.	½, ½	Sheldon	8, 12	44x2½-56x3	L	Lavine	52, 0	W, Bimel	150	36x4-36x7	4,650	54, 78	375a
376	W, Sheldon	Y	B	2, R	11, 9½	E, E	P, Own	½, ½	Detroit		42x2½-56x3	R	Ross		S	144	36x4-36x7	4,500		376
376a	W, Sheldon	Y	B	2, R	11, 9½	E, E	P, Own	½, ½	Detroit		40x2½-56x3	R	Ross		S	160	36x4-36x8	5,900		376a
377	W, Wisc., 900C	Y	B	2, R		E, E	P	½, ½	Sheldon	9, 12	40x2½-56x3	L	Own		I, Smith	150	36x4-36x3	5,000	25, 75	377
378	W, Timken, 6560.	Y	B	2, R	12½, 9½	E, E	R, Own	½, ½	Perfection	11, 12	40x2½-52x3	L	Ross		W	152	36x4-36x7	4,600	60, 80	378
379	I, Clark, 2D	Y	B	4, FR	12½, 12	C, E	R, Own	½, ½	Mather	11, 15	40x2½-48x2½	L	Lavine	62, 0	I, Own	150	34x5-36x6	4,800	30, 60	379
380	W, Sheldon			2, R		E, E	P, Smith						Lavine		W	156	36x4-36x6			380
381	W, Timken			2, R		E, E	P, Parish		Delaney			L	Ross		W, Archibald	144	36x3½-36x7			381
381a	W, Sheldon, W1500	Y	W	2, R	11½, 9½	E, E	P, Parish & B.	½, ½	Mather	12, 15	39x2½-54x3	L	Ross	60, 0	S, Dayton	156	36x6-36x8	5,650	30, 60	381a
382	I, Own			2, F		C, E	R, Own		Spring Perch			R	Gemmer		W, Archibald	144	48x3½d-48x3½d			382
383	W, Timken	N	W	2, R	14, 12	C, E	P	½, ½	Higgins	9, 15	40x2½-52x3½	L	Lavine	48, 0	W, Bimel	144	36x5-36x8	4,200	30, 75	383
384	B, Own			2, R		C, C							Own			132	36x6-36x6			384
384a	I, Russel, RI300	Y	B	2, R	12½, 13¼	C, E	P, Detroit	½, ½	Mather	9, 11	40x2½-56x3	L	Lavine	51, 0	I, Smith	143	36x4-36x8	5,000	—, 90	384a
384b	I, Russel, U	Y	B	2, R	12, 13	C, E	P, Detroit	½, ½	Detroit	10, 14	44x2½-52x3½	L	Ross	57, 1	I, Smith	149½	36x4-36x7	4,920	52, 79½	384b
384c	W, Wisconsin			2, R					Own				Ross			136	36x5-36x8	4,750		384c
385	W, Sheldon			2, R		E, E	R, Own	½, ½	Own			L	Ross		I, Smith	144	36x4-36x8			385
386	B, Own	Y	B	4, FR	9 11/16, 9 11/16	C, C	P, Parish & B.	½, ½	Tuthill	10, 12	45½x2½-44x2½	R	Ross	51, 0	W, Schwarz.	124	36x6-36x6	6,400	38, 55	386
387	I, Clark, 2D	Y	B	2, R	10, 13½	C, E	P	½, ½	Perfection	9, 14	40x2½-54x3	L	Jacox	45, 0	S, Clark	152½	36x6p-42x9p	5,350	50, 75	387
388	W, Sheldon, W21.	Y	B	2, R		E, C	P	½, ½	U. S	11, 13	40½x2½-50½x3	L	Ross	39, 6	I, Smith		36x4-36x10		50, 80	388
389	I, Own			2, R				½, ½	Own				Own		Opt		40x7-Opt	6,000		389
390	W, Own	N	S	2, R	10½, 9½	C, E	R, Own	½, ½		11, 12	42½x3-46x3	L	Own	56, 0	I	156	36x5-36x5d	7,000	52, 72	390
391	W, Own	N	B	2, R	12, 9	C, E	P	½, ½		9, 14	42x3-54x3	R	Ross	55, 0	S	150	36x5-36x5d	6,900	62, 75	391
392	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	158	34x5-36x5d	5,900	—, 62	392
393	W, Sheldon			2, R			R, Own	½, ½	Sheldon			L	Ross		W, Hoopes	170	38x7p-42x9p	5,550	—, 61	393
393a	W, Sheldon	N	W	2, R	11, 9½	E, E	P, Detroit	½, ½	Sheldon	9, 14	42x2½-54x3	L	Lavine	52, 0	W, Bimel	156½	36x5-36x5d	6,000	48, 67	393a
393b	W, Sheldon, W21.	Y	B	2, R	12, 9½	E, E	P	½, ½	Sheldon	9, 12	42x2½-54x3	L	Lavine	50, 0	W, Schwarz	156	36x4-36x4d	5,500	49, 86	393b
394	W, Sheldon, W21.	Y	W	2, R	10½, 9	E, E	P	½, ½	Sheldon	10, 11	42x3-58x3½	L	Gemmer	46, 2	I, Smith	175	36x5-36x5d	6,370	40, 70	394
395	I, Own	Y	W	2, R	14, 14	C, C	P	½, ½	Perfection		48x3-52x4	L	Ross	48, 0	S, Dayton	168	38x7p-42x9p	6,000	50, 75	395
396	I, Own	N	BS	2, R	10½, 10½	C, E	R	½, ½				L	Own	61, 0	S	174	36x5-40x5d	7,075	54, 70	396
397	W, Timken, 6660	Y	W	2, R	11, 10	E, E	P, Savage	½, ½	Detroit	10, 14	42x3-56x3½	L	Ross		I, Smith	180	36x5-36x5d	6,600	—, 76	397
398	W, Timken, 6660	N	B	2, R	8, 9½	E, E	P, Smith	½, ½	Detroit	11, 14	42x3-54x3½	L	Ross	58, 0	W, Bimel	168	36x5-40x10	6,600	50, 70	398
398a	W, Sheldon, W31	N		2, R		E, E	R, Own	½, ½	Sheldon	12, 17	46x3-60x3½	L	Ross		W	160	36x5-36x5d		55, 75	398a
399	W, Timken			2, R		C, E	P, Parish		Tuthill			L	Ross		S, Clark	166	36x6-36x10			399
400	W, Timken, 6660	N	W	2, R	10, 9	C, E	R	½, ½	Mather	8, 13	48x3-60x3	L	Ross	58, 0	W, St. Marys	156	36x5-36x5d	7,200	60, 80	400
401	W, Timken, 6652	Y	B	2, R		E, E	P	½, ½	Spring Perch	11, 14	41½x3-56x3½	R	Gemmer	59, 10	W, Archibald	167½	36x5-40x5d	6,720		401
402	W, Timken, 6652	N	W	2, R	9, 10	E, E	R, Own	½, ½	Tuthill	9, 12	42x3-54x3½	L	Ross		W, Schwarz	176	36x5-40x5d	6,500	55, 75	402
403	I, Clark	N	B	2, R	11, 11	C, E	R	½, ½	Mather	8, 12	44x3-56x3½	L	Lavine	64, 0	S, Clark	160	36x5-40x5d	6,800	50, 80	403
404	W, Timken, 6660	N	B	2, R		E, E	P, Parish	½, ½	Merrill	12, 15	44x2½-52x3½	L	Gemmer		I, Smith	164	36x5-36x5d	6,430	60, 82	404
405	W, Wisc., 900D	Y	B	2, R	11½, 9	E, E	R	½, ½	SpringPerch		42x3-56x3½	L	Ross	56, 0	S, Detroit	168	36x5-36x10	6,400	55, 80	405
406	W, Timken, 6660	Y	B	2, R	9½, 8½	E, E	R, Own	½, ½	Mather	10, 15	40x2½-54x3	L	Gemmer		W, Standard	168	36x5-36x10	6,850	60, 75	406
407	W, Timken, 6652	N	B	2, R	14½, 10½	E, E	P, Parish & B.	½, ½	Perfection	9, 13	44x3-54x3½	L	Ross	62, 0	I, Smith	170	36x5-40x5d	6,600	60, 78	407
408	W, Own	Y	B	2, R	11½, 10½	E, E	R, Savage	½, ½	Perfection	8, 15	44x3-56x3½	L	Ross	60, 0	W, Prudden	160	36x5-36x10	6,450	50, 80	408
409	W, Sheldon, W31	Y	B	2, R	11, 9	E, E	P, Savage	½, ½	Iron City	11, 17	42x2½-56x3	L	Gemmer	59, 0	W, Jones	165	36x5-36x5d	5,750	60, 70	409
411	W, Timken, 6660	Y	W	2, R		E, E	P, Smith	½, ½	Mather	8, 15	46x3-56x3	R	Gemmer		S	170	36x5-36x5d	7,250	50, 90	411
412	W, Timken, 6652	Y	W	2, R	9½, 9	E, E	P, Smith	½, ½	Rowland	9, 15	42x3-56x4	L	Ross	60, 0	I, Smith	154	36x5-36x10	6,750	86, 70	412
413	I, Own	N	S	4, FR	15, 15	C, C	P, Parish & B.	½, ½	Tuthill	6, 8	41½x3-41½x3	L	Wohlrab.	60, 0	W, Prudden	130	36x8-36x8	3,800	40, 60	413
414	W, Timken			2, R			P						Ross			168	36x5-40x5d			414
415	W, Timken, 6652	N	B	2, R	14½, 8 5/16	E, E	P, Own	½, ½	Mather	7, 13	44x3-60x3½	L	Ross	59, 8	W, Prudden	172	36x5-36x5d	7,300	53, 69	415
416	W, Timken, 6660	N	B	2, R	10, 8	E, E	P, Detroit	½, ½	Mather	8, 12	44x3-56x3½	L	Gemmer	48, 10	I, Smith	156	36x5-36x5d	7,000	62, 75	416
418	W	Y	B	2, R		E, E	P	½, ½		9, 17	42x3-56x3½	L	Ross	58, 0	I	162	36x5-36x5d	7,550		418
419	W, Timken, 6652	Y	W	2, R	9, 10½	E, E	P	½, ½	Detroit	10, 14	44x3-58x4	L	Ross	46, 0	W, Prudden	162	36x5-40x5d	7,000	50, 20	419
419a	W, Sheldon, W31	Y	B	2, R	10, 11½	E, E	R, Own	½, ½	Tuthill	11, 12	42x3-54x3½	L	Ross	62, 0	I, Smith	170	36x5-40x12	8,000	50, 85	419a
420	W, Sheldon, W30	Y	B	2, R	10, 8½	E, E	R	½, ½	Sheldon	9, 15	44x3-60x4	R	Ross		W, Wayne	176	36x5-36x5d	6,000	40, 70	420
421	W, Timken, 6652	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Detroit	10, 12	44x3-54x4	L	Jacox	55, 0	S, Own	163	36x5-40x5d	7,540	56, 75	421
422	W, Standard	Y	B	2, R		E, E	P, Own	½, ½	Perfection		46x3-62x3½	L	Ross	61, 0	S, Smith	156	36x5-40x5d	8,350	76, 91½	422
423	W, Timken, 6652	Y	W	2, R	9, 8	E, E	R	½, ½	Detroit	12, 16	45x2½-54x3½	L	Gemmer		I, Smith	144	36x5-36x5	6,825	25, 80	423
424	W, Sheldon			2, R		E, E	R, Own		Sheldon			L	Ross		W, Schwarz	160	36x5-36x5d			424
424a	I, Clark	Y		2, R		C, E	P	½, ½		12, 16	39x3-56x4	L	Ross	67, 0	S	174	38x7p-44x10p	7,000	56, 80	424a
425	W, Timken			2, R				½, ½	Tuthill				Ross		W	160	36x5-36x5d			425
426	W, Hindley			2, R		E, C,	P, Savage	½, ½	Perfection				Ross		W, Wayne	156	36x5-36x5d			426
427	W, Sheldon, W31	N	B	2, R	11¾, 8½	E, E	R	½, ½	Sheldon	9, 14	40x3-50x3½	L	Wohlrab.	54, 0	I, Smith	160	36x5-36x5d	7,150	66, 75	427
428	I, Own		B	2, R		E, E	P	½, ½		10, 14	42½x3-57½x4	L	Own		W	162	36x5-40x10	7,500	50, 68	428
429	B, Own			4, FR		E, C	P, Castle		Spring Perch			R	Ross		W, Standard	150	36x7-36x7			429
430	I, Clark, 3D	Y	B	2, R	11½, 12	C, E	P	½, ½	Perfection	11, 13	46x3-62x3½	L	Jacox	62, 6	S, Dayton	165	36x5-36x10	7,510	50, 75	430
431	W, Sheldon, W31	N	W	2, R	10, 9½	E, E	R	½, ½	Sheldon	9, 14	42½x3-56x3½	L	Ross	36, 0	I, Smith	160	36x5-36x5d	8,000	—, 80	431
432	C, Own	N	B	2, R	11½, 15½	E, E	P	½, ½	Perfection	11, 15	46½x3-54x3	L	Gemmer	56, 0	W	150	36x5-36x5d	9,285	50, 90	432
433	I, Clark	N	B	2, R	9½, 13½	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	433
434	W, Standard	N	B	2, R	9½, 11	E, E	P	½, ½	Perfection	11, 14	48x3-56x4	L	Gemmer	56, 0	S	156	36x5-40x5d	8,500	50, 90	434
435	W, Sheldon, W30	Y	W	2, R	10½, 8½	E, E	P, Smith	½, ½	Mather	11, 12	44x3-62x3½	L	Ross	50, 0	I, Smith	168	36x5-36x5d	7,200	57½, 74½	435
436	W, Timken, 6652	Y	W	2, R	9½, 10	E, E	R, Own	½, ½	Betts	8, 14	44x3-52x3	R	Ross		W, W't'rh'se	163	36x5-36x10	7,200	50, 75	436
437	W, Timken, 6652	N	B	2, R	12½, 10½	E, E	R, Own	½, ½	Tuthill	8, 12	42x3-52x3½	L	Lavine	66, 4	S, Standard	172	36x5-40x10	6,500		437
438	W, Sheldon, W30	Y	B	2, R	14, 9	E, E	P, Parish & B.	½, ½	Merrill	10, 15	44x3-56x3½	L	Ross		W, Hoopes	160	36x5-36x5d	6,850	44, 88	438

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7,000 (Maccar)—10,000 (Garford) INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	7,000 Pounds—Con.																			
439	Maccar, M-2	4,500	Wisc., VAU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Stromberg	G	M, Eisemann	N	M, Brown-L, 50	S, 4	Brown-L. 50	N	Spicer	439
440	Mack, AC	4,950	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	440
441	Mapleleaf, CC		Hinkley, HA200	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, GU5	N	Blood	441
441a	Master, E (int)	4,640	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	441a
442	Master, A, (worm)	4,190	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	442
443	Menominee, G	4,270	Continental, E4	4	4½x5½-32.4	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	443
444	National, IA		Waukesha, NU4R	4	4½x5½-32.4	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 50	N	Spicer	444
445	Nelson & LeMoon, F3½		Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-Lipe	S, 4	Brown-L, 50		Thermoid	445
446	Noble, E7 0		Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Chicago	Y	Stromberg		M, Eisemann		M, Fuller	S, 4	Warner, T53			446
447	Northway, B3	4,400	Own	4	4x6-25.6	FS	Pierce	P	C, G & O	Y	Stromberg	G	B	Y	M, Fuller	S, 4	Fuller, GU6	N	Spicer	447
447a	O. K., M	4,250	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T,R'me-T'r'y		Zenith		M, Eisemann		M, Fuller	S, 4	Fuller, H			447a
448	Old Reliable, C	4,000	Wisconsin, UU	4	4½x6-28.9	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	448
448a	Oneida, D9	4,345		4	4½x5½-32.4	F	Own	P	C, Moline	Y	Stromberg	G	M, Bosch	N	M	S, 4		N	Peters	448a
448b	Orleans	3,900		4	4½x6-32.4			P	T	N	Master	G	M, Eisemann	N	M	I, 4	Cotta			448b
449	Paige, 51-18	4,285	Hinkley, HA200	4	4½x5½-32.4		Simplex	P	T		Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L	N	Spicer	449
450	Parker, J20		Wisconsin, VAU	4	4½x6-32.4	F	Monarch	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Warner, T53	N	Kinzler-B	450
450a	Pierce-Arrow, W2	4,950	Own	4	4½x6½-32.4	F	Own	P	T	N	Stromberg	G	B, Delco	N	M	S, 4	Own	Y	Spicer	450a
450b	Powers, C		Hinkley, HA	4	4½x5½-32.4	F	Hinkley	P	T, G & O		Zenith	G	M, Eisemann		P, Detroit	S, 4	Fuller		Uni. Mch.	450b
451	Republic, 20	3,845	Continental, E4	4	4½x5½-32.4	FS	Pharo	P	T, Own	N	Stromberg	G	M		M, Fuller	S, 4	Fuller, GU5	N	Hartford	451
452	Reynolds, 7A	4,800	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	452
453	Royal	4,200	Wisconsin	4	4½x6-32.4		Monarch	P	T, Kells		Stromberg		M, Bosch		P, Borg & B	I, 3	Own			453
454	Sandow, M	4,095	Continental, E4	4	4½x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	454
455	Sanford, W35	4,200	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Spicer	455
456	Schacht	4,350	Buda, XTU	4	4½x6-28.9	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 4	Own	N	M & E	456
457	Selden, 3½A	4,325	Continental, E7	4	4½x5½-32.4	S	Pierce	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	457
458	Service, 71	4,285	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	458
459	Service, 76	4,485	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	459
460	Signal, M	4,275	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	460
461	Standard, 66	4,000	Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	461
462	Sterling		Own	4	4½x6½-32.4	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	462
463	Stewart, 10	3,395	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU4	Y	Hartford	463
464	Sullivan, H	4,650	Buda, YTU	4	4½x6-32.4	F	Pierce	P	T, Bush	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-L, 50	N	Spicer	464
465	Super, 70		Wisconsin, UAU	4	4½x6-28.9	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Fuller	S, 4	Fuller, G	Y	Spicer	465
466	Tiffin, PW	4,760	Continental, E4	4	4½x5½-32.4	FS	Pierce	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	S, 4	Fuller, G	Y	Peters	466
467	Titan	4,550	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, R	N	M & E	467
468	Tower, G	4,400	Continental, E4	4	4½x5½-32.4	S	Pierce	P	T, Own	N		G	M	N	M, Fuller	S, 4	Fuller, G	N		468
468a	Transport, 70	4,195	Buda, YTU	4	4½x6-32.4	F	Duplex	P	C	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Cotta, RU	N	Hartford	468a
469	Twin City (Minn'p'l's)		Own	4	4½x6-28.9	F	Own	P	C, Spirex	N	Schebler	G	M, Bosch	N	P, Borg & B	S, 4	Fuller, G5,	N	Spicer	469
469a	Twin City (St. Paul)	4,750	Wisconsin, JAU	4	5½x6-42.0	F	Pierce	P	C		Stromberg		K-W		M, Hele-Shaw	I, 3	Cotta			469a
470	United, C	3,975	Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 35			470
471	Universal, L		Buda	4	4½x5½-28.9		Monarch	P	T, Long		Zenith		M, Eisemann		M, Own	S, 3	Own			471
473	Victor, M	3,800	Continental, E4	4	4½x5½-32.4	FS		P	Own		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-Lipe			473
474	Walter, (Wis.), MO3		Own	4	4½x6-30.6	FS	Own	P	T, Own		Zenith		M, Swiss		C, Own	S, 4	Own			474
475	Ward LaFrance, 4A	4,690		4	4½x6½-32.4	F		P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	475
476	Watson, 18		Continental, E4	4	4½x5½-32.4	S	Pierce	P	T,R'e-T'r'n'y	N	Stromberg	G	M, Simms	N	M, Brown-L	S, 4	Brown-L, 50	N	Spicer	476
477	Wichita, O	4,000	Beaver, JB	4	4½x6-28.9	F	Duplex	P	C, E & M	Y	Stromberg	G	M	N	M	I, 4		N	Thermoid	477
478	Wilcox, D		Own	4	4½x5-28.9	S	Pierce	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		478
479	Wilson	3,950	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	479
480	Winther, 70	4,200	Wisconsin, TAU	4	4x6-25.6	F		P	N, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 50	N	Blood	480
	8,000 Pounds:																			
480a	American	4,575	Wisconsin	4	4½x6-32.4	F	Pierce	P	T, G & O		Stromberg	G	M, Eisemann		P, Detroit	S, 4	Covert		Acme	480a
481	Bessemer, K2	4,285	Continental, E7	4	4½x5½-32.4	S	Pierce	P	C, Standard	Y	Rayfield	G	M, Bosch	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	481
481a	Bethlehem, J	3,995	Own	4	4½x5½-32.4	F	Pierce	P	C, Livingston	N	Zenith	G	M, Bosch	Y	M, Fuller	S, 4	Fuller, G5	N	Universal	481a
481b	Bridgeport, 4C	3,850	Buda, YTU	4	4½x6-32.4	FS	Pierce	P	T, Own		Stromberg	G	M, Eisemann		P, Borg & B	S, 4			Hartford	481b
481c	Denby, 27	4,600	Continental, E7	4	4½x5½-32.4	F	Duplex	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Own	S, 4	Fuller, G5	N	Universal	481c
481d	Double-Drive, B	4,000	Buda, HTU	4	4½x5½-28.9	F	Pierce	P	T		Zenith	G	M, Louraine		P, Borg & B	S, 4	Own		Own	481d
482	Gabriel, F	4,300	Buda, YU	4	4½x6-32.4	F	Duplex	P	T, G & O		Rayfield		M, Bosch		P, Borg & B	S, 4	Brown-L, 60			482
483	Highway-Knight, A		Moline-K., W	4	4x6-25.6	F		P	T, Own	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Own	N	Thermoid	483
484	Jumbo, 40	5,200	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, Own	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	Y	Spicer	484
485	Kimball, E	4,975	Wisconsin, JU	4	5 1-10x5½-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	485
486	Moreland, 19G	4,975	Cont'l, Class B	4	4½x6-36.0	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	486
487	Packard, E	4,550	Own	4	4½x5½-32.4	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp.	487
488	Riker, BB	4,700	Own	4	4½x6-28.9	S	Own	P	T	N	Ball & Ball	G	M, Berling	N	C, Own	S, 4	Own	N	Own	488
489	Rowe, HW	4,500	Wisconsin	4	4½x6-32.4	F	Simplex	P	C, Fedders		Zenith		M, Bosch			S, 4	Brown-L		Spicer	489
490	Union, H	3,975	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Eisemann	N	M, Fuller	S, 4	Fuller, GU	N	Universal	490
490a	U. S. S		Hinkley, HA200	4	4½x5½-32.4	F	Hinkley	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Blood	490a
490b	Ware, A	4,000		8	3½x5-39.2	FS	Pierce	P	T		Stromberg	G			M	S, 2			Own	490b
	10,000 Pounds:																			
491	Acason, M	5,450	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	C, National	Y	Schebler	G	M, Eisemann	N	M, Detlaff, H8	I, 4	Cotta, S	Y	Blood	491
491a	Acme, E	5,150	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	N	Rayfield	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, T	N	Blood	491a
491b	Atterbury, 8E	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Zenith	G	B, M	Y	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	491b
492	Autohorse, 10	2,000	Continental	4	3½x5-22.5		N	P	C, Eureka		Stromberg		M, Eisemann	N	P, Borg & B	S, 3	Detroit			492
493	Available, H5	5,575	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer-Bld	493
494	A & B, 5T		Own	4	5½x3½-42.8		N	P	T, Bush		Schebler		M, Bosch		M, Brown-L	S, 4	Brown-Lipe			494
495	Bollstrom, A		Own	4	4½x5½-28.9			P	Own		Stromberg		M, Bosch		M	I, 4	Own		Own	495
496	Brockway, T	5,250	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, G & O	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	496
496a	Chicago, D5	4,600	Hercules	4	4½x5½-32.4	F	Simplex	P	T	Y	Stromberg	G	M, Bosch		M, Brown-L	S, 4	Brown-Lipe	N	Peters	496a
497	Clydesdale, 120C	5,500	Own	4	4½x6-36.1	F	Own	P	T, Own	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	497
498	Couple-Gear, AC	6,700	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, F'sm'nn	N	†	I, 6	Own		Own	498
499	Day-Elder, E	4,600	Buda, YU	4	4½x6-32.4	F	Monarch	P	T, Bush	N	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 60	N	Hartford	499
500	Denby, 210	5,350	Continental, E7	4	4½x5½-32.4	F	Duplex	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Own	S, 4	Warner, T53	N	Peters	500
501	Diamond T, S	4,800	Class B, U. S.	4	4½x6-36.1	FS	Pierce	P	T, G & O	N	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	501
501a	Diamond T, EL	4,615	Hinkley	4	4½x5½-32.4	FS		P	T, G & O	N	Stromberg	G	M, Bosch	N	M	S, 4			Spicer	501a
502	Fageol	5,300	Waukesha, DU	4	4½x6½-32.4	S	Waukesha	P	C, Modine	N	Zenith	DG	M, Dixie	N	M, Brown-L	S, 5	Own	Y	Spicer	502
503	Federal, XE	4,600	Continental, E4	4	4½x5½-32.4	S	Pharo	P	T	Y	Zenith	G	M, Eisemann	N	P, Borg & B	S, 4	Warner	N	Spicer	503
504	Garford, 68 (chain)	5,200		4	4½x5½-36.1	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		504
504a	Garford, 68D (worm)	5,200		4	5x6½-40.0	F	Simplex	P	T, Own	N	Rayfield	G	M, Splitdorf	N	M	S, 4		N		504a

† Electric Transmission

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TRUCK SPECIFICATIONS — 7,000 (Maccar)—10,000 (Garford)

Line No.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron; Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds).	Perc. of weight on rear axle when empty & when loaded.	Line No.
39	W, Timken, 6652..	N	B	2, R	9 5/16, 8¾	E, E	P, Parish.....	½, ½	Merrill....	9, 14	42x2½-56x3½...	L	Ross.....	.....	S, Dayton..	174	36x5-36x5d.....	6,175	—, 70	439
40	C, Own.....	N	B	2, R	11½, 10¾	C, E	P, Own.....	½, ½	Merrill....	9, 10	46x3½-52x4....	L	Own.....	52, 6	W, Own....	Opt.	36x5-36x5d.....	8,070	46, 66	440
41	W, Sheldon, W31.	Y	B	2, R	10, 8¾	E, E	R, Own.....	½, ½	Sheldon....	—, 15	46x3-56x4.....	L	Ross.....	.....	W, Hayes..	160	36x5-36x5d.....	7,000	50, 70	441
41a	I., Walker.....	Y	BS	2, R	.....	C, E	P, Parish & B..	½, ½	Detroit....	12, 15	44x3-58x4.....	L	Ross.....	48, 0	S, Walker..	158	36x5-40x5d.....	7,000	58, 72	441a
42	W, Timken, 6652..	Y	B	2, R	11⅜, 10¾	E, E	P, Parish & B..	½, ½	Detroit....	12, 15	44x3-58x4.....	L	Ross.....	48, 0	S.....	158	36x5-40x5d.....	7,000	58, 72	442
43	W, Timken, 6652..	N	B	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	11, 11	44x2½-54x3½...	L	Ross.....	.....	W, Standard	160	36x5-36x5d.....	6,650	.....	443
44	W, Timken, 6560..	N	W	2, R	9¼, 10¼	E, E	R.....	½, ½	Mather....	9, 17	46x3-58x3½....	L	Ross.....	54, 0	W, Hayes..	158	36x5-40x5d.....	7,000	.....	444
45	W, Timken, 6652..	Y	.....	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	.....	.....	.....	Lavine.....	.....	W, Prudden.	.....	36x5-36x5d.....	.....	.....	445
46	W, Sheldon, W30..	.....	.....	2, R	.....	E, E	P, Slick-Knox..	½, ½	SpringPerch	.....	.....	.....	Lavine.....	.....	W, Bimel..	166	36x5-36x5d.....	7,500	.....	446
47	W, Sheldon, W30..	Y	B	2, R	10, 10½	E, E	P, Parish & B..	½, ½	Perfection..	10, 12	44x3-56x4.....	L	Ross.....	50, 0	S, Clark....	160	36x5-40x5d.....	7,300	51½, 73	447
47a	W, Wisc., 900....	.....	.....	2, R	.....	E, E	P, Hydraulic..	½, ½	Liggett....	.....	.....	.....	Ross.....	.....	W, Bimel..	154	36x5-36x5d.....	.....	.....	447a
48	W, Sheldon, W30.	Y	W	2, R	11⅛, 8½	E, E	R.....	½, ½	Sheldon....	10, 16	48x3-60x4.....	R	Ross.....	.....	W, St. Marys	160	36x5-36x5d.....	6,850	—, 77	448
48a	W.....	N	B	2, R	11, 8¾	E, E	P, Detroit.....	½, ½	Mather....	11, 12	44x3-56x3½...	L	Ross.....	.....	S.....	170	36x5-36x10.....	7,250	60, 85	448a
48b	W.....	N	.....	2, R	.....	E, E	R.....	½, ½	.....	.....	44x3-56x3½...	.....	Ross.....	.....	I, Smith...	166	36x4½-36x4d.....	.....	.....	448q
49	W, Timken.....	N	B	2, R	.....	E, E	P.....	½, ½	Perfection..	9, 14	46x3-58x4.....	L	Ross.....	.....	S, Dayton..	160	36x5-36x5d.....	7,000	60, 75	449
50	W, Own.....	N	B	2, R	14, 11	C, E	P, Smith.....	½, ½	Tuthill....	8, 16	51x3-60x3.....	L	Ross.....	64, 0	W, Bimel..	160	36x5-40x5d.....	6,300	55, 76½	450
50a	W.....	N	.....	2, R	.....	C, E	P.....	½, ½	SpringPerch	12, 15	41x3½-56x3½...	L	Own.....	.....	S, Dayton .	162	36x5-36x5d.....	8,350	—, 85	450a
50b	W, Wisconsin.....	.....	.....	2, R	.....	.....	.....	½, ½	Rowland....	.....	.....	.....	Ross.....	.....	W, St. M'rys	167	36x5-40x10.....	6,420	.....	450b
51	I, Torbensen, E1..	Y	W, Powrlok..	2, R	.....	C, E	P, Detroit.....	½, ½	Mather....	8, 13	44½x3-52½x4...	L	Jacox.....	.....	I, Smith...	165	36x5-36x10.....	6,400	.....	451
52	W, Sheldon.....	Y	B	2, R	9⅜, 9½	E	R, Standard..	½, ½	Perfection..	.....	44x3-56x3½....	L	Lavine.....	.....	I, Smith...	156	36x5-36x5.....	.....	.....	452
53	W, Timken.....	.....	.....	2, R	.....	E, E	R, Own.....	½, ½	Merrill....	.....	.....	.....	Ross.....	.....	W.....	158	36x5-38x5d.....	.....	.....	453
54	W, Timken, 6652..	N	W	2, R	8¾, 8½	E, E	P, Savage.....	½, ½	Garden City	9, 17	44x3-56x3½....	R	Ross.....	40, 0	W, Standard	175	36x5 36x5d.....	6,650	20, 70	454
55	W, Sheldon, W30..	Y	W	2, R	10½, 8¾	E, E	P, Parish & B..	½, ½	Perfection..	9, 13	46x3-54x3½.....	L	Ross.....	50, 0	W, Hoopes..	174	36x5-36x5d.....	6,900	76, 87	455
56	W, Own.....	N	B	2, R	10½, 9	C, E	R, Own.....	½, ½	National...	9, 15	35x2½-50x3.....	L	Own.....	.....	W, St. Marys	168	36x5-36x5d.....	6,500	—, 70	456
57	W, Timken, 6652..	N	B	2, R	9¼, 8 15/16	E, E	P, Parish & B..	½, ½	Perfection..	10, 14	42x3-56x3½.....	R	Gemmer..	62, 0	S.....	162	36x5-36x10.....	7,200	60, 78	457
58	W, Timken, 6660..	N	B	2, R	9⅜, 7¾	E, E	P, Own.....	½, ½	Mather....	11, 13	46x3-60x3½.....	L	Ross.....	52, 0	S.....	171	36x5-36x5d.....	6,930	—, 72	458
59	W, Timken, 6660..	N	B	2, R	9⅜, 7¾	E, E	P, Own.....	½, ½	Mather....	11, 13	46x3-60x3½.....	L	Ross.....	52, 0	S.....	171	36x5-36x5d.....	7,280	—, 72	459
60	W, Timken, 6652..	N	B	2, R	11, 11	E, E	P, Savage.....	½, ½	Detroit....	11, 16	44x3-56x3½.....	L	Ross.....	61, 0	W, Hayes..	168	36x5-40x10.....	7,070	—, 84	460
61	W, Timken, 6660..	N	B	2, R	9⅜, 8¼	E, E	P, Parish & B..	½, ½	Perfection..	10, 15	45½x3-52½x3½...	L	Gemmer..	.....	W.....	160	36x5-36x5d.....	6,480	57, 70	461
62	W, Timken, 6652..	N	B	2, R	11⅛, 10¾	E, E	P, W	c, ½c	Mather....	8, 10	48x3-60x3½.....	L	Ross.....	53, 6	W, Prudden.	162	36x5-40x5d.....	8,300	53, 92	462
63	I, Clark, 3D.....	Y	B	2, R	10, 10	C, C	P, Hydraulic...	½, ½	Detroit....	10, 14	41x2½-54x4.....	L	Ross.....	52, 0	S, Clark....	165	36x5-36x5d.....	6,080	64½, 80½	463
64	W, Timken, 6652..	N	B	2, R	9½, 8½	E, E	P.....	½, ½	Sheldon....	9, 13	46x3-56x3½.....	L	Ross.....	58, 6	W, Wayne..	170	36x5-36x5d.....	6,000	50, 68	464
65	W, Sheldon, W30..	Y	B	2, R	12, 12¾	E, E	P.....	½, ½	Sheldon....	10, 11	44x3-58x4.....	L	Ross.....	50, 0	S.....	164	36x5-40x5d.....	7,300	.....	465
66	W, Sheldon, W31..	N	B	2, R	10, 9	E, E	R.....	½, ½	Kalamazoo..	9, 16	42x3-52x3½.....	L	Ross.....	62, 0	I, Smith....	160	36x5-40x5d.....	6,950	40, 60	466
67	I, Clark, 3.....	N	B	2, R	12, 16	E, C	P, Parish & B..	½, ½	Sheldon....	9, 11	48x3-60x3½.....	L	Lavine..	50, 0	S, Dayton..	156	36x5-40x5d.....	7,350	57, 80	467
68	W, Timken.....	N	B	2, R	10½, 10½	E, E	P.....	½, ½	Detroit....	.....	44x3-56x3½.....	L	Ross.....	.....	W.....	165	36x5-36x5d.....	7,010	—, 70	468
68a	I. Clark, 3D.....	Y	B	2, R	11, 11½	C, E	P, Detroit.....	½, ½	Detroit....	11,13	46x3-54x4.....	L	Jacox.....	.....	S, Clark....	170	36x5-36x10.....	7,150	20, 80	468a
69	W, Timken.....	N	.....	2, R	.....	E, E	R.....	½, ½	Mather....	.....	45x3-54x3½.....	L	Ross.....	.....	I, Smith...	168	36x5-40x5d.....	6,800	—, 80	469
69a	I.....	.....	.....	4, FR	.....	.....	.....	½, ½	.....	.....	.....	.....	Ross.....	.....	.....	140	36x6-36x6.....	.....	.....	469a
70	I, Clark, 3D.....	.....	.....	2, R	.....	E, C	P, Detroit.....	½, ½	Detroit....	.....	.....	.....	Lavine.....	.....	S.....	157	36x5-36x5d.....	.....	.....	470
71	C, Own.....	.....	.....	2, R	.....	E, E	R.....	½, ½	Kalamazoo..	.....	.....	.....	Lavine.....	.....	W.....	156	36x5-36x5d.....	.....	.....	471
73	W, Timken.....	.....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	Gemmer..	.....	.....	176	36x6-36x5d.....	.....	.....	473
74	E, Own.....	.....	.....	4, FR	.....	C, C	R, Own.....	½, ½	.....	.....	.....	.....	Own.....	.....	S, Own....	108	40x4d-40x4d.....	.....	.....	474
75	W, Timken, 6652..	N	W	2, R	10⅛, 8 5/16	E, E	P, Detroit.....	½, ½	Merrill....	.....	46x3-60x3½.....	L	Ross.....	.....	I, Smith...	162	36x5-36x5d.....	7,750	—, 85	475
76	W, Empire, 12....	Y	B	2, R	12½, 6½	E, E	P, Parish.....	½, ½	Sheldon....	11, 12	44x3-56x3½.....	L	Gemmer..	.....	W, Crane ..	168	36x5-36x10.....	6,950	.....	476
77	W, Sheldon, W30..	Y	B	2, R	10, 8¾	E, E	P, Own.....	½, ½	Detroit....	.....	46x2½-56x3.....	R	Ross.....	.....	S.....	165	36x5-36x5d.....	6,500	.....	477
78	W, Sheldon, W30..	Y	B	2, R	.....	E, E	P.....	½, ½	Own.....	10, 12	40x2½-60x4.....	L	Own.....	.....	I, Smith...	154	36x5-36x5d.....	6,400	25, 75	478
79	W, Timken, 6652..	Y	B	2, R	9⅜, 8¾	E, E	R, Own.....	½, ½	Perfection..	11, 17	46x3-60x3½.....	L	Ross.....	.....	W.....	160	36x5-36x5d.....	6,800	60, 80	479
80	I, Clark, 3D.....	Y	B	2, R	11½, 12	C, E	R, Own.....	½, ½	Mather....	8, 10	46x3-56x4.....	R	Ross.....	62, 0	S, Clark....	150	36x5-36x5d.....	6,400	45, 80	480
80a	W, Wisconsin.....	.....	.....	2, R	.....	.....	.....	½, ½	SpringPerch	.....	.....	.....	Lavine.....	.....	I, Smith....	158	36x5-36x5d.....	6,475	.....	480a
81	I, Torbensen, E...	N	B	2, R	11. 11	E, C	P.....	½, ½	Perfection..	10, 12	44x3-56x3½.....	L	Ross.....	.....	W, Schwarz	175	36x5-36x10.....	6,700	54, 69	481
81a	I, Torbensen.....	Y	B	2, R	12½, 14¼	C	E P, Detroit.....	½, ½	Mather....	10, 14	44x2½-56x3½....	L	Lavine..	55, 0	I, Smith...	162	36x5-36x5d.....	6,100	27, 90	481a
81b	W.....	.....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	Ross.....	.....	.....	170	36x10-36x10.....	9,000	.....	481b
81c	I, Clark, 3.....	Y	B	2, R	13½, 11½	C, E	P, Detroit.....	½, ½	Detroit....	10, 18	42x3-54x3½.....	L	Ross.....	56, 8	I, Smith...	170	36x5-36x5d.....	7,020	56, 78	481c
81d	W, Own.....	.....	.....	2, R	.....	.....	.....	½, ½	Own.....	.....	.....	.....	Lavine..	.....	W, Standard	130	36x6-36x6.....	.....	.....	481d
82	W, Timken, 6652..	.....	.....	2, R	.....	E, E	P, Parish.....	½, ½	Merrill....	.....	.....	.....	Gemmer..	.....	I, Smith...	180	36x5-40x5d.....	.....	.....	482
83	W.....	Y	.....	2, R	11, 10	E, E	P.....	½, ½	Sheldon....	.....	46x3-56x3½.....	L	Ross.....	.....	W, Schwarz.	159	36x5-36x6d.....	7,200	.....	483
84	I, Clark, 3D.....	Y	B	2, R	13½, 16¾	C, E	P.....	½, ½	Perfection..	10, 13	46x3-62x3½.....	L	Jacox.....	62, 6	S, Clark....	165	38x7p-44x10p.....	7,760	50, 75	484
85	W, Sheldon, W30..	Y	B	2, R	.....	E, E	P.....	½, ½	U. S.....	12, 16	45½x3-53½x3½...	L	Ross.....	39, 6	I, Smith....	.....	36x5-40x10.....	.....	50, 80	485
86	W, Timken, 6652..	N	W	2, R	9¼, 11½	E, E	P.....	½, ½	U. S.....	9, 12	50x3-50x4.....	L	Ross.....	.....	I, Smith....	162	36x5-40x5.....	7,860	55, 67	486
87	W, Own.....	N	S	2, R	10½, 10½	C, E	R, Own.....	½, ½	.....	11, 14	42½x3-46x3.....	L	Own.....	56, 0	W.....	156	36x5-40x5d.....	7,460	55, 75	487
88	W, Own.....	N	B	2, R	12, 9	C, E	P.....	½, ½	.....	9, 17	42x3-54x3.....	R	Ross.....	55, 0	S.....	150	36x5-36x6d.....	7,200	63, 77	488
89	W, Sheldon.....	.....	.....	2, R	.....	E	E.....	½, ½	Sheldon....	.....	.....	.....	Ross.....	.....	W, Hoopes.	158	36x5-36x6d.....	6,370	—, 75	489
90	I, Torbensen, E...	Y	B	2, R	13, 12	C, C	P, Own.....	½, ½	Mather....	8, 15	42x3-56x4.....	L	Ross.....	.....	I, Smith...	171	36x6-36x10.....	.....	50, 70	490
90a	W, Sheldon, W31.	Y	B	2, R	11½, 8½	E, E	P.....	½, ½	Sheldon....	9, 10	44x3-56x3½.....	L	Lavine ..	60, 0	W, Schwarz	168	36x5-36x5d.....	7,600	51, 85	490a
90b	B.....	.....	.....	2, R	.....	.....	.....	½, ½	Tuthill....	.....	.....	.....	.....	.....	.....	135	Optional.....	.....	.....	490b
91	W, Timken, 6760..	Y	W	2, R	11, 10	E, E	P, Savage.....	½, ½	Detroit....	12, 18	42x3-56x4.....	L	Ross.....	.....	I, Smith....	187	36x6-40x6d.....	8,350	—, 77	491
91a	W, Timken, 6760..	N	B	2, R	9, 9½	E, E	P, Smith.....	½, ½	Detroit....	11, 17	44x3-56x4.....	L	Ross.....	64, 0	I, Smith....	180	36x6-40x12.....	8,800	50, 70	491a
91b	W, Timken, 6752..	N	B	2, R	.....	E, E	P.....	½, ½	Spring Perch	10, 12	41½x3-54x4.....	L	Gemmer..	59, 10	S, Dayton..	167½	36x5-40x6.....	9,350	.....	491b
92	I, Own.....	.....	.....	1, F	.....	C, E	R, Own.....	.....	Champion..	.....	.....	.....	Own.....	.....	W, Bimel...	43	34x10.....	.....	.....	492
93	W, Timken, 6752..	N	W	2 R	9, 10	E, E	R, Own.....	½, ½	Tuthill....	9, 15	44x3-60x4.....	L	Ross.....	.....	I, Smith....	190	36x6-40x12.....	9,500	55, 75	493
94	I, Own.....	.....	.....	2, R	.....	C, C	R, Own.....	½, ½	Perfection..	.....	.....	.....	Gemmer..	.....	W.....	144	48x3½d-48x5d.....	.....	.....	494
95	I, Own.....	.....	.....	2, R	.....	C, C	R, Own.....	.....	.....	.....	.....	L	Gemmer..	.....	S, Clark....	144	36x6-36x6.....	.....	.....	495
96	W, Timken, 6752..	N	B	2, R	.....	E, E	P, Parish	½, ½	Merrill....	12, 17	44x3-58x4.....	L	Gemmer..	.....	I, Smith....	174	36x6-40x6d.....	9,075	60, 90	496
96a	W, Timken, 6752.	Y	B	2, R	9, 10	E, E	R.....	½, ½	.....	.....	44x3-56x4.....	L	Gemmer..	42, 0	Optional...	167	36x6-40x12.....	8,110	56, 80	496a
97	W, Timken, 6752..	N	B	2, R	13¾, 9¾	E, E	P, Parish & B..	½, ½	Perfection..	11, 18	44x3-56x4.....	L	Ross.....	58, 0	I, Smith....	176	36x6-40x6d.....	9,000	65, 76	497
98	B, Own.....	N	.....	4, FR	11, 11	E, E	R.....	½, ½	Tuthill....	12, 12	43x3-43x3.....	R	Own.....	36, 0	S, Own....	144	36x5-36x5.....	11,000	50, 50	498
99	W, Sheldon, W51.	Y	B	2, R	10½, 10½	E, E	P, Savage.....	½, ½	Iron City...	12, 13	48x3-60x4.....	L	Gemmer..	54, 0	I, Smith....	150	36x5-40x6d.....	8.250	60, 70	499
100	I, Clark, 5D	Y	B	2, R	13¾, 13¾	E, C	P, Detroit.....	½, ½	Detroit....	10, 18	42x3-54x4.....	L	Ross.....	62, 0	S, Clark....	170	36x6-40x6d.....	8,590	58, 80	500
101	W, Timken, 6760.	Y	W	2, R	.....	E, E	P, Smith.....	½, ½	Mather....	10, 14	46x3-56x4.....	L	Gemmer..	.....	S.....	180	36x6-40x6d.....	8,790	50, 90	501
101a	W, Timken	Y	W	2 R	.....	E, E	P	½, ½	Mather....	10, 14	46x3-56x4.....	L	Gemmer..	.....	S.....	180	36x6-40x6d.....	8,790	50,90	501a
102	W, Timken, 6752..	N	B	2, R	14½, 10½	E, E	P, Own.....	½, ½	Mather....	9, 16	46x3-60x4.....	L	Ross.....	59, 8	W, Prudden.	172	36x6-40x6d.....	8,300	56, 73	502
103	W, Timken, 6760..	N	B	2, R	9, 10	E, E	R, Russel.....	½, ½	Mather....	8, 16	44x3-56x3½.....	L	Gemmer..	57, 0	I, Smith....	156	36x6-40x6d.....	8,100	65, 78	503
104	C.....	N	B	2, R	.....	C, E	P.....	.....	.....	10, 17	48x3-50x3.....	R	Ross.....	.....	I, Smith....	128	36x6-40x6d.....	8,870	.....	504
104a	W.....	.....	B	2, R	.....	C, E	P.....	½, ½	.....	.....	.....	R	Ross.....	.....	I, Smith....	162	36x3-40x6d.....	.....	.....	504a

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10,000 (Gary)—15,000 INTERNAL-COMBUSTION

Line no.	Brand name and model name or number	Price f. o. b. factory with seat and tires but without body.	Make of engine and model number.	Number of cylinders.	Bore and stroke, and N. A. C. C. horse-power.	Lubrication (Forced-feed, Splash).	Make of governor (None).	Water-circulation (Pump, Thermo-siphon).	Radiator (Cellular, Tubular) and make.	Radiator guard included in price? (Yes or No)	Make of carbureter.	Fuels (Distillate, Gasolene, Kerosene).	Ignition (Battery, Magneto) and make of magneto.	Electric starting and lighting included in price? (Yes or No)	Clutch (Cone, Multiple-disk, Plate) and make.	Transmission (Individual-clutch, Planetary, Sliding-gear) and number of forward speeds.	Make of transmission and model number.	Power take-off included in price? (Yes or No)	Make of universal joints.	Line no.
	10,000 Pounds—Con.																			
505	Gary, M	5,150	Buda, BTU	4	5x6½-40.0	F	McCanna	P	T, Chicago	Y	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	505
506	IMC, 101A		Continental, E4	4	4½x5½-32.4	FS	Monarch	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Own	S, 4	Own	N	Own	506
507	Gramm-Bernstein, 50	5,275	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Own	Y	Stromberg	G	M, Eisemann	N	M, Own	I, 4	Own	N	Own	507
508	Hall (chain)	5,100	Continental, E4	4	4½x5½-32.4	FS	Simplex	P	T, G & O	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 50	N	Hartford	508
509	Hall (worm)	5,100	Continental, E4	4	4½x5½-32.4	FS	Simplex	T	T, Long	Y	Zenith	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	509
510	Harvey, WKA	5,200	Buda	4	4½x6-32.4	F	Duplex	P	T, Chicago		Stromberg		M, Eisemann		P, Borg & B	S, 4	Brown-Lipe			510
510a	Hendrickson, K	5,400	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P			Stromberg	G	M, Dixie		M	S, 4	Brown-L		Thermoid	510a
511	Highway-Knight, B		Moline-K., W	4	4x6-25.6	F		P	T, Own	N	Zenith	G	M, Eisemann	Y	M, Brown-L	S, 4	Own	N	Thermoid	511
512	Hurlburt, D	5,500	Buda, YTU	4	4½x6-32.4	FS	Duplex	P	T, Own		Flechter		M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60			512
513	Indiana, 50	4,775	Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	513
514	Kelly-Springfield, K50	5,150	Own	4	4½x6½-32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	514
515	Kimball, F	5,975	Wisconsin, JAU	4	5½x6-42.0	FS	Duplex	P	C, Flexo	N	Zenith	D	M, Berling	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	515
516	Kissel, Goliath	5,085	Own	4	4½x5½-28.9	S	Pierce	P	T, Fedders	N	Stromberg	G	M, Eisemann	N	M, Warner	S, 4	Warner, T53	N	Spicer	516
517	Kleiber, D	5,600	Continental, T	4	5½x5½-44.1	S	Pierce	P	T, R'e-T'rn'y	N	Stromberg	DG	M, Bosch	N	M, Hele-Shaw	S, 4	Brown-L, 60-4	N	Spicer	517
517a	Koehler, MT	3,450	Hercules	4	4 x5½-25.6						Zenith	G	M, Eisemann		P	S, 3				517a
518	Larrabee, T		Continental, E4	4	4½x5½-32.4	S	Simplex	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	518
519	Mack, AC	5,500	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	519
520	Maplecaf, DD		Hinkley, HA1600	4	4½x5½-32.4	FS	Hinkley	P	T, McCord	Y	Stromberg	G	M, Bosch		M, Fuller	S, 4	Fuller, H	N	Blood	520
520a	Master, F (Int)	5,540	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	520a
521	Master, B (worm)	5,290	Buda, ATU	4	4½x6½-36.1	F	Pierce	P	T, Own	N	Master	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	Y	Spicer	521
522	Menominee, J	5,450	Wisconsin, A	4	4½x5½-36.1	S		P	T, Own	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	522
523	Moreland, 19J	5,350	Cont'l, Class B	4	4½x6-36.1	F	Cont'l	P	T, Own	N	Master	D	M, Dixie	N	M, Own	S, 4	Own	N	Thermoid	523
524	National, JA		Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, McKinnon	Y	Zenith	G	M, Eisemann	N	M, Hele-Shaw	S, 4	Brown-L, 60	N	Spicer	524
525	Nelson & LeMoon, F5		Continental, B2	4	4½x6-36.1	F	Pierce	P	T, Chicago		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Thermoid	525
526	Old Reliable, D	5,000	Wisconsin, J	4	5 1-10x5½-42.0	F	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, SD60	Y	Spicer	526
527	Oneida, E9	5,460		4	4½x5½-32.4	F	Own	P	C, Modine	Y	Stromberg	G	M, Bosch	N	M	I, 4		N	Peters	527
528	Parker, M20		Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Bremer	Y	Stromberg	G	M, Bosch	Y	M, Brown-L	S, 4	Warner, T53-1	N	Kinsler-B	528
530	Pierce-Arrow, R9	5,700	Own	4	4½x6-38.2	F	Own	P	T, Own	N	Stromberg	G	M, Splitdorf	N	C, Own	S, 3	Own	Y	Own	530
531	Reynolds, 10A	5,800	Hinkley	4	4½x5½-32.4	F	Hinkley	P	T, Own	Y	Stromberg	dgk	M, Bosch	Y	M, Own	S, 4	Covert		Thermoid	531
532	Rowe, FW	5,500	Wisconsin, AU	4	4½x6-32.4	F	Simplex	P	C, Fedders		Zenith		M, Bosch		M, Brown-L	S, 4	Brown-L, 60		Spicer	532
533	Royal	5,000	Wisconsin	4	4½x5½-36.1		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			533
534	Sandow, L	4,775	Continental, E4	4	4½x5½-32.4	S	Monarch	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	534
535	Sanford, W50	5,100	Continental, E4	4	4½x5½-32.4	F	Pierce	P	T, McCord	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	535
536	Schacht	5,350	Buda, YTU	4	4½x6-32.4	F	Duplex	P	T, Own	N	Schebler	G	M, Bosch	N	C, Own	S, 3	Own	N	M & E	536
537	Schwartz, D	4,500	Buda, YTU	4	4½x6-32.4	F	Simplex	P	C, Fedders	Y	Stromberg	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	537
538	Selden, 5A	5,770	Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Detlaff	S, 4	Brown-L, 60	Y	Spicer	538
539	Service, 101	5,275	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, Long	N	Stromberg	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Spicer	539
540	Signal, R	5,300	Continental, B2	4	4½x6-361	FS	Pierce	P	T, McCord	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	540
541	Standard, 86	4,800	Continental, E7	4	4½x5½-32.4	FS	Monarch	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	541
542	Sterling (chain)		Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	542
543	Sterling, (worm)		Own	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 3	Own	N	Spicer	543
544	Super, 100		Wisconsin, RAU	4	4½x6-36.1	F	Simplex	P	T, Chicago	Y	Zenith	G	M, Bosch	N	M, Hilliard	S, 4	Savage, SD60	Y	Spicer	544
545	Tiffin, TW	5,850	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	Y	Peters	545
546	Titan	5,400	Buda, YTU	4	4½x6-32.4	F	Simplex	P	T, B & W	N	Stromberg	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	N	M & E	546
547	Twin City (St. Paul)	5,250	Wisconsin, JA	4	5½x6-46.2	FS	Pierce	P	C		Stromberg	G	K-W		M, M & E	I, 3	Cotta			547
548	United, V	5,100	Buda, YU	4	4½x6-32.4	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Brown-L, 60			548
549	Walter, (N. Y.), 8	5,600	Waukesha, DU	4	4½x6½-32.4	F	Own	P	T, Bush	Y	Stromberg	G	M, Simms	Y	M, Brown-L	S, 4	Warner, T53		M & E	549
550	Ward LaFrance, 5A	5,590		4	5x6½-40.0	F		P	T, Own	Y	Zenith	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	M & E	550
551	White, 45	5,000	Own	4	4½x5½-28.9	F	Own	P	T, Own	N	Own	G	M	N	P, Own	S, 4	Own	N	Own	551
551a	Wichita, S	5,000	Beaver, JA	4	4½x6-32.4	P	Duplex	P	C, E & M	Y	Stromberg	G	M	N	C	S, 4	Own	N	Thermoid	551a
552	Wilcox, W		Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Long	N	Stromberg	G	M, Bosch	N	C, Own	S, 4	Own	N		552
553	Wilson	5,275	Continental, E7	4	4½x5½-32.4	FS	Pierce	P	T, Own	N	Marvel	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-L, 60	N	Hartford	553
554	Winther, 109	5,250	Wisconsin, VAU	4	4½x6-32.4	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	554
	11,000 Pounds:																			
554a	Astna	5,375	Wisc., RBU	4	5 x6-40.0	F	Pierce	P	T, Own	Y	Zenith	G	M	N	P, Borg & B	I, 4	Cotta, T	N	Spicer	554a
555	Mascar, G-1	5,500	Wisc., RBU	4	5x6-40.0	F	Pierce	P	T, Own	N	Zenith	G	M, Eisemann	N	M, Brown-L, 60	S, 4	Brown-L, 60	N	Spicer	555
555a	Bridgeport, 6D	4,500	Buda, YTU	4	4½x6-32.4	FS	Pierce	P	Own		Stromberg	G	M, Eisemann		P, Borg & B	S, 4			Hartford	555a
	12,000 Pounds:																			
556	Doane	5,350	Waukesha, PU7	4	4½x6½-36.1	S	Waukesha	P	C, Own		Master		M, Bosch		M, Brown-L	S, 3				556
557	Kelly-Springfield, K60	5,500	Own	4	4½x—32.4	F	Pierce	P	C, Long	N	Zenith	G	M, Eisemann	N	C, Own	S, 3	Covert, F	N	Own	557
558	Packard, EF	5,950	Own	4	5x5½-40.0	F	Own	P	T, Fedders	N	Own	G	M, Dixie	N	M, Own	S, 4	Own	N	Ther-Sp	558
559	Royal	5,400	Wisconsin	4	5½x6-42.0		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			559
560	Tiffin, UW	6,050	Continental, B2	4	4½x6-36.1	FS	Cont'l	P	T, Own	Y	Schebler	G	M, Eisemann	N	P, Borg & B	I, 4	Cotta, S	Y	Peters	560
561	United, T		Buda, HU	4	4½x5½-28.9	F	Simplex	P	T, G & O		Stromberg		M, Bosch		M, Brown-L	S, 4	Muncie, 63			561
562	U. S. T		Buda, ATU	4	4½x6½-36.1	F	Simplex	P	T, Long	Y	Stromberg	G	M, Eisemann	N	M, Brown-L	S, 4	Brown-Lipe, 60	N	Blood	562
	13,000 Pounds																			
563	Mack, AC	$5,750	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P Own	S, 3	Own	Y	Spicer	563
	14,000 Pounds:																			
563a	Available, H7	6,000	Waukesha	4	5x6½-40.0	FS	Waukesha	P	T, Chicago	Y	Stromberg	G	BM, Bosch	N	M, Brown-L	S, 4	Brown-Lipe		Spicer	563a
564	Cou-le-Gear, LDC	7,350	Wisconsin	4	5½x7-44.1	FS	N	P	C, Ideal	Y	Stromberg	G	BM, E'sm'nn	N	†	† 6	Own		Own	564
565	Larrabee, W		Continental, B2	4	4½x6-36.1	F	Cont'l	P	T, Bush	N	Schebler	G	M, Bosch	N	M, Brown-L	S, 4	Brown-L, 60	N	Spicer	565
566	Old Reliable, K	6,000	Waukesha, P	4	4½x6½-36.1	S	Waukesha	P	T, Chicago	Y	Stromberg	G	M, Bosch	N	M, Universal	S, 4	Savage, 6495	Y	Hartford	566
567	Royal	6,500	Wisconsin	4	5½x7-44.2		Monarch	P	T, Kells		Stromberg		M, Bosch		M, Hele-Shaw	I, 3	Own			567
568	Winther, 140	5,900	Wisconsin, RBU	4	5 x6-40.0	F	Duplex	P	T, Bremer	N	Master	G	M, Eisemann	N	P, Borg & B	S, 4	Brown-L, 60	N	Blood	568
	15,000 Pounds:																			
569	Mack, AC	6,000	Own	4	5x6-40.0	S	Own	P	T, Own	N	Zenith	G	M, Aero	N	P, Own	S, 3	Own	Y	Spicer	569
570	Sterling		Waukesha, EU	4	5x6½-40.0	F	Waukesha	P	C, Own	Y	Rayfield	G	M, Eisemann		M, M & E	I, 6	Own	N	Universal	570

† Electric transmission.

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TRUCK SPECIFICATIONS

10,000 (Gary)—15,000

Line no.	Final drive (Bevel, Chain, Internal-gear, Spur-and-bevel, Worm) and make of rear axle and model number.	Hotchkiss drive? (Yes or No)	Differential (Bevel, Spur, Worm) and make.	Number and location of driving-wheels (Front, Rear).	Clearance under front and rear axles.	Service and emergency brakes (Contracting, Expanding).	Frame material (Pressed-steel, Rolled-steel) and make.	Front and rear springs (Cantaliver; 1-2, 3-4, or Full elliptic; Transverse).	Make of springs.	Leaves in front and rear springs.	Length and width of front and rear springs.	Driver's position (Left, Right).	Make of steering gear.	Turning-circle diameter (feet and inches).	Wheels (Iron, Steel, Wood) and make.	Wheel-base (standard).	Front and rear tire sizes (dual, pneumatic).	Weight of chassis (pounds). Perc. of weight on rear axle when empty & when loaded.	Line no.
505	W, Timken, 6752..	Y	W	2, R	9, 10¼	E, E	P.....	½, ½	Detroit....	13, 18	46x3-60x4.....	L	Ross....	52, 0	S, Dayton..	182	36x6-40x6d.....	8,500	50, 20	505
506	W, Timken. 6752..	N	B	2, R	11½, 10	E, E	R, Own.....	½, ½	Detroit....	10, 16	44x3-54x4.....	L	Jacox....	55, 0	S, Own.....	163	36x6-40x6d.....	8,485	56, 75	506
507	W, Standard.....	Y	B	2, R	12½, 10½	E, E	P, Own.....	½, ½	Perfection..	10, 16	48x3½-64x4.....	L	Ross.....	62, 0	I, Smith....	168	36x6-40x6d.....	9,850	76½, 92½	507
508	C, Timken, 4800..	Y	W	2, R	8, 16	E, E	R.....	½, ½	Detroit....	12 18	45x3-52x3½.....	L	Gemmer..	.....	I, Smith....	144	36x5-40x6.....	7,530	25, 80	508
509	W, Timken, 6752..	Y	W	2, R	8, 9	E, E	R.....	½, ½	Perfection..	12, 18	45x3-52x4.....	L	Gemmer..	.....	I, Smith....	144	36x5-40x6.....	8,400	25, 80	509
510	W, Sheldon.....	....	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	.....	.....	....	Ross.....	.....	I. Smith....	160	36x6-40x6d.....	.....	.....	510
510a	W, Timken.....	....	.....	2, R	.....	.....	.....	½, ½	Tuthill....	.....	.....	....	Ross.....	.....	W,Standard	Opt.	36x6-40x6d.....	.....	.....	510a
511	W	Y	, R	11, 10½	E, E	P,.....	½, ½	Sheldon....	.....	46x3-58x4.....	L	Ross.....	.....	W, Schwarz.	159	36x5-40x6d.....	8,400	.....	511
512	W, Hindley.....	....	.....	2, R	.....	E, C	P, Savage....	½, ½	Perfection..	.....	.....	....	Ross.....	.....	W, Wayne..	170	36x5-40x6d.....	.....	.....	512
513	W, Sheldon, W51..	N	B	2, R	9½, 10½	E, E	R, Illinois....	F ½	Sheldon....	10, 15	40x3-50x4.....	L	Wohlrab..	56, 0	I. Smith....	167	36x5-40x6d.....	9,000	66½, 78½	513
514	C, Own.....	N	B	2, R	11½, 15½	E, E	P.....	½, ½	Perfection..	11, 14	46¾x3-56¾x3¾..	L	Gemmer..	56, 0	W.....	150	36x6-40x6d.....	9,175	50, 90	514
515	W, Sheldon, W50..	Y	B	2, R	.....	E, E	P.....	½, ½	U. S.....	12, 16	45½x3-53½x4..	L	Ross.....	39, 6	I, Smith....	.....	36x6-40x12.....	.....	50, 80	515
516	W, Sheldon, W30..	Y	W	2, R	10, 8	E, E	P, Smith.....	½, ½	Mather....	11, 13	44x3-62x3½.....	L	Ross.....	50, 0	I, Smith....	180	36x6-36x6d.....	7,900	57½, 74½	516
517	W, Timken, 6752..	N	W	2, R	9½, 10½	E, E	R, Own.....	½, ½	Betts.....	11, 15	50x3-52x4.....	R	Ross.....	.....	I, Smith....	180	36x6-40x6d.....	9,200	50, 75	517
517a	W, Timken.....	Y	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	.....	.....	.....	.....	142	36x4-36x7.....	.....	.....	517a
518	W, Sheldon, W50 .	Y	B	2, R	14, 10¾	E, E	P, Savage....	½, ½	Merrill....	12, 17	44x3-58x4.....	L	Ross.....	.....	I. Smith....	178	36x6-40x6d.....	8,500	40, 84	518
519	C, Own.....	N	B	2, R	11½, 10½	C, E	P, Own.....	½, ½	Merrill....	9, 13	46x3½-52x4.....	L	Own.....	52, 6	W, Own....	Opt.	36x6-40x6d.....	8,650	48, 90	519
520	W, Sheldon, W51..	Y	B	2, R	10½, 10½	E, E	R, Own.....	½, ½	Sheldon....	–, 13	46x3-56x4.....	L	Ross.....	.....	I, Smith....	160	36x6-40x6d.....	8 600	60, 70	520
520a	I, Walker.....	Y	BS	2, R	.....	E, E	P, Parish & B .	½, ½	Detroit....	13, 18	46x3-60x4.....	L	Ross.....	50, 0	S, Walker..	170	36x6-40x6d.....	8,000	58, 72	520a
521	W, Timken, 6752..	Y	B	2, R	11, 11¾	E, E	P, Parish & B .	½, ½	Detroit....	13, 18	46x3-60x4.....	L	Ross.....	50, 0	I. Smith....	170	36x6-40x6d.....	8,000	58, 72	521
522	W, Timken, 6752..	N	B	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	9, 12	44x3-54x4.....	L	Ross.....	.....	W, Standard	160	36x6-40x6d.....	8,500	.....	522
523	W, Timken, 6752..	N	W	2, R	9, 10	E, E	P.....	½, ½	U. S.....	12, 14	.....	L	Ross.....	.....	I, Smith....	162	36x6-40x6.....	9,400	55, 67	523
524	W ,Timken, 6760..	N	W	2, R	9, 10½	E, E	R.....	½, ½	Mather....	11, 19	44x3½-60x4.....	L	Ross.....	56, 0	W. Hayes..	170	36x6-40x6d.....	8,650	.....	524
525	W, Timken, 6752..	Y	.....	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	.....	.....	.....	Lavine....	.....	W, Prudden.	.....	36x6-40x6d.....	.....	.....	525
526	W, Sheldon, W50..	Y	W	2, R	10½, 10½	E, E	R.....	½, ½	Sheldon....	10, 16	48x3-60x4.....	R	Ross.....	.....	W,St. Marys	168	36x6-40x6d.....	8,400	—, 70	526
527	W.....	N	B	2, R	11½, 10½	E, E	P, Detroit....	½, ½	Mather....	11, 12	44x3-60x4.....	L	.....	.....	S.....	180	36x6-40x12.....	9,000	60, 85	527
528	W, Own.....	N	B	2, R	14½, 11	C, E	P, Smith.....	½, ½	Tuthill....	8, 14	44x3-60x4.....	L	Ross.....	60, 0	I, Smith....	160	36x6-40x6d.....	8,000	58½, 78	528
530	W, Own.....	N	S	2, R	12, 10½	C, E	P, Parish.....	½, ½	Spring Perch	11, 16	33x2½-48x3.....	R	Own.....	50, 6	W, Own....	168	36x5-40x6d.....	8,450	—, 75	530
531	W, Sheldon.....	Y	B	2, R	9⅜, 10½	E, E	R, Standard...	½, ½	Perfection..	.....	44x3-56x4.....	L	Lavine....	.....	I. Smith....	176	36x6-40x6.....	.....	.....	531
532	W, Sheldon, W50..	....	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	.....	.....	....	Ross.....	.....	W, Hoopes.	170	36x6-40x6d.....	8,240	—, 66	532
533	W, Timken.....	....	.....	2, R	.....	E, E	R, Own.....	½, ½	Merrill....	.....	.....	....	Ross.....	.....	W	168	36x6-40x6d.....	.....	.....	533
534	W Timken, 6752..	N	W	2, R	8½, 8	E, E	P, Savage....	½, ½	Garden City	10, 20	44x3-56x3½.....	R	Ross.....	41, 0	W, Standard	175	36x6-40x6d.....	7,950	20. 70	534
535	W, Sheldon, W50..	Y	W	2, R	10½, 10½	E, E	P, Parish & B .	½, ½	Perfection..	10, 13	46x3-54x3½.....	L	Ross.....	58, 0	I. Smith....	174	36x5-40x6d.....	8,070	75, 81	535
536	W, Own.....	N	B	2, R	10, 9	C, E	R, Own.....	½, ½	National...	9, 17	35x3-50x3.....	L	Own.....	.....	W,St. Marys	168	36x5-40x6d.....	8,500	—, 70	536
537	I, Torbensen, EI..	Y	B	2, R	9½, 11¾	E, C	P, Parish.....	½, ½	Rowland...	10, 15	40x3-56x4.....	L	Ross.....	.....	I, Smith....	170	36x6-36x10.....	7.600	.....	537
538	W, Timken, 6752..	N	B	2, R	–, 10½	E, E	P, Parish & B.	½, ½	SpringPerch	11, 15	46x3½-60x4.....	L	Gemmer..	62, 0	S.....	164	36x6-40x12.....	9,800	57, 76	538
539	W, Timken, 6760..	N	B	2, R	9, 10⅜	E, E	P, Own.....	½, ½	Mather....	12, 15	46x3-60x3½.....	L	Ross.....	56, 0	S.....	171½	36x6-40x6d.....	8.760	—, 75	539
540	W, Timken 6752..	N	B	2, R	11, 11	E, E	P, Savage.....	½, ½	Detroit....	11, 18	44x3-56x5.....	L	Ross.....	71, 0	I, Smith....	180	36x6-40x12.....	9,510	—, 84	540
541	W, Timken, 6760..	N	B	2, R	9, 10	E, E	P, Parish & B..	½, ½	Perfection..	.....	45½x3-52½x4...	L	Gemmer..	.....	S, Dayton..	160	36x6-40x6d.....	8,100	64. 75	541
542	C, Own.....	N	S	2, R	11½, —	E, C	P	½c,½c	Mather....	10, 12	48x3-60x4.....	L	Ross.....	47, 9	I. Smith....	174	36x6-40x6d.....	10,000	54. 91	542
543	W, Timken, 6752..	N	B	2, R	11½, 10⅜	E, E	P	½c,½c	Mather....	10, 12	48x3-60x4.....	L	Ross.....	47, 2	W, Prudden	168	36x6-40x6d.....	9,700	53, 92	543
544	W, Sheldon, W51..	N	B	2, R	11½, 12	E, E	P.....	½, ½	Sheldon....	11, 13	44x3-58x4.....	L	Ross.....	50, 0	S.....	164	36x5-40x6d.....	8,500	.....	544
545	W, Sheldon, W51..	N	B	2, R	9, 10	E, E	R.....	½, ½	Kalamazoo	10 16	42x3½-53x4.....	L	Ross.....	69, 0	I. Smith....	168	36x6-40x6d.....	8,000	40, 60	545
546	I, Clark, 5.....	N	B	2, R	12, 16	E, C	P, Parish & B .	½, ½	Sheldon....	9, 13	48x3-60x3½.....	L	Lavine....	50, 0	S. Clark....	156	36x5-40x6d.....	9,100	57, 80	546
547	I.....	....	.....	4, FR	.....	.....	.....	½, ½	.....	.....	.....	.....	Ross.....	.....	.....	140	36x5-36x5.....	8,000	.....	547
548	I, Clark, 5D.....	....	.....	2, R	.....	E, C	P, Detroit....	½, ½	Detroit....	.....	.....	....	Ross.....	.....	S.....	160	36x5-40x6d.....	.....	.....	548
549	I, Own.....	Y	W	2, R	14, 14	C, C	P.....	½, ½	Perfection..	.....	48x3-52x5.....	L	Ross.....	48, 0	S. Dayton..	168	36x6-40x6d.....	8,000	50, 80	549
550	W, Timken, 6752..	N	W	2, R	9¾, 10⅝	E, E	P, Detroit....	½, ½	Merrill....	.....	50x3-60x4.....	L	Ross.....	.....	I, Smith ..	190	36x6-40x6d.....	9,300	—, 85..	550
551	I, Own.....	N	BS	2, R	10½, 10½	C, E	R.....	½, ½	.....	.....	.....	L	Own.....	61,0	S.....	174	36x6-40x6d.....	7,925	54, 70	551
551a	SB, Own	Y	B	2, R	10½, 9	E, E	P, Own	½, ½	Detroit	.....	51x3½-62x5....	R	Ross.....	.....	S.....	165	36x6-40x6d.....	9,000	.....	551a
552	W, Sheldon, W50..	N	B	2, R	.....	E, E	P.....	½, ½	Sheldon....	12, 13	48x3½-62x5....	L	Own.....	.....	I, Smith....	162	36x5-40x6d.....	9,100	25, 75	552
553	W, Timken, 6752..	Y	B	2, R	9, 10⅜	E, E	R, Own.....	½, ½	Perfection..	11, 17	46x3-60x4.....	L	Ross.....	.....	W.....	160	36x6-40x6d.....	7,500	60, 80	553
554	I, Clark, 5D	Y	B	2, R	11, 14	E, E	R, Own.....	½, ½	Mather....	8, 12	46x3-56x4.....	R	Ross.....	68, 0	S, Clark....	162	36x5-40x6d.....	8,600	45, 80	554
554a	W, Sheldon, W51	N	.....	2, R	.....	E, E	R, Own.....	½, ½	Sheldon....	12, 18	46x3½-60x4 ...	L	Ross.....	.....	W.....	168	36x6-40x6d	.....	55, 75	554a
555	W, Timken, 6752..	N	B	2, R	9, 10¼	E, E	P, Parish.....	½, ½	Merrill....	11, 15	42x2½-56x4.....	L	Ross.....	.....	S, Dayton..	186	36x5-40x6d.....	8.750	—, 70	555
555a	W.....	....	.....	2, R	.....	.....	.....	½, ½	.....	.....	.....	....	Ross.....	.....	.....	170	.....	12,000	.....	555a
556	C, Own.....	....	.....	2, R	.....	.....	R.....	½, ½	.....	.....	.....	.....	Lavine....	.....	S, West....	178	36x6-40x6d.....	.....	.....	556
557	C, Own.....	N	B	2, R	11½, 15½	E, E	P.....	½, ½	Perfection..	12, 15	48½x3-56½x3½..	L	Gemmer..	56, 0	W.....	150	36x6-40x7d.....	9,500	50, 90	557
558	W, Own.....	N	S	2, R	11⅜, 9½	C, E	R.....	½, ½	.....	12, 14	42⅜x3-54x3½....	L	Ross.....	62, 0	S.....	156	36x6-40x7d.....	8,650	58, 78	558
559	W, Timken.....	....	.....	2, R	.....	E, E	R, Own.....	½, ½	Merrill....	.....	.....	....	Ross.....	.....	W.....	168	36x6-40x6d.....	.....	.....	559
560	W ,Sheldon, W51..	N	B	2, R	9, 10	E, E	R.....	½, ½	Kalamazoo	10, 18	42x3½-52x4.....	L	Ross.....	34, 6	I, Smith....	168	36x6-40x12.....	9,000	40, 60	560
561	I. Torbensen, C...	....	.....	2, R	.....	E, C	R, Detroit....	½, C	Detroit....	.....	.....	....	Jacox.....	.....	S.....	.....	34x3½-34x7.....	.....	.....	561
562	W, Sheldon, W51	Y	B	2, R	11½, 10½	C, E	P.....	½, ½	Sheldon....	11, 16	46x3-60x4.....	L	Lavine....	62, 0	I, Smith....	172	36x6-40x6d.....	9,725	55, 89	562
563	C, Own.....	N	B	2, R	11½, 10¾	C, E	P.....	½, ½	Merril l....	9, 17	46x3½-52x4	L	Own.....	52, 6	W.....	Opt.	36x6-40x12	8,672	.....	563
563a	W, Savage.....	N	.....	2, R	.....	E, E	R, Own.....	½, ½	Tuthill....	.....	44x3-60x4.....	L	Ross.....	.....	I, Smith ...	190	36x6-40x14.....	10,300	.....	563a
564	B, Own.....	N	.....	4, FR	11, 11	E, E	R.....	½, ½	Tuthill....	14, 14	50x3½-50x3½....	R	Own.....	36, 0	S, Own.....	144	36x6-36x6.....	12,500	50. 50	564
565	W, Sheldon, W51..	Y	B	2, R	10, 10	E, E	P.....	½, ½	Merrill....	12, 17	44x3-58x4.....	L	Ross.....	.....	I. Smith....	.....	36x6-40x12.....	8,960	42 86	565
566	C, Sheldon, RA70.	N	B	2, R	9⅞, 17	C, E	R.....	½, ½	Sheldon....	11, 13	51½x3½-59½x3½.	R	Ross.....	.....	W,St. Marys	124	36x6-40x7d.....	10,240	—, 85	566
567	W, Timken.....	....	.....	2, R	.....	E, E	R, Own.....	½, ½	Merrill....	.....	.....	....	Ross.....	.....	W.....	168	36x7-40x7d.....	.....	.....	567
568	I, Clark, 5D.....	Y	B	2, R	11, 14	E, E	R, Own.....	½, ½	Mather....	13, 16	46x3-56x4.....	R	Ross.....	68, 0	S, Clark....	162	36x6-40x7d.....	9,500	45, 80	568
569	C, Own.....	N	B	2, R	11½, 10¾	C, E	P, Own.....	½c,½c	Merrill....	9, 17	46x3½-52x4.....	L	Own.....	52, 6	W, Own....	Opt.	.....	9,050	50, 72	569
570	C, Own.....	N	S	2, R	11½,—	E, C	P	½c,½c	Mather	10, 14	48x4-60x4.....	L	Ross.....	47, 9	I, Smith....	174	36x7-40x7d.....	11,000	66, 91	570

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Oil Truck Body Specifications

By F. A. BEAN
Consulting Engineer, Wayne Oil Tank & Pump Company

PROBABLY no phase of the design of oil tank trucks has been as little understood as that of the tank, its cradles and other accessories. This has led to an overload being carried by gasolene trucks in a great many cases. These cases are distributed throughout the entire country. An overload will nearly always mean a rapid depreciation and a heavy maintenance charge during its actual life. One of the reasons is that both truck manufacturers and tank builders have not carefully enough considered the question of the pay load and body allowance in relation to the actual body in question for the particular chassis on which it is to be installed.

The weights of finished tanks usually overrun very materially the estimated weight and also the body weight allowance. I have known finished tanks on trucks of 2-ton capacity to overrun the estimated weight by 700 pounds. This was an actual overload of 17½ per cent.

There are two other causes of overloading that are squarely up to the oil companies. One is the practice of taking a tank off a chassis for which it may have been properly designed and placing it on another truck of the same carrying capacity but with a smaller body weight allowance, different frame dimensions and a different distribution of the load. The second is the practice of buying a chassis and tank which has been designed to carry a capacity load in the tank and without any provisions for can racks on the sides, and, after the tank has been in service, building on can racks to carry 8 to 12 ten-gallon milk cans filled with lubricating oil, thus overloading in some cases as much as 1,200 pounds. I know of one case of this kind where the truck broke down completely after 18 months of service, and the oil company tried to place the blame on the truck manufacturer. In considering the capacity of tank to be used on any chassis, the first question to be decided is whether the truck will be required to carry lubricating oils, kerosene, etc., in milk cans in addition to its regular load. If so, the amount and weight should be carefully calculated and the tank capacity figured accordingly.

The truly cylindrical type of tank is not being used as much at the present time as it was previously on account of the wasted space on the bed of the truck and the raising of the center of gravity, although from its shape it is well suited to resist strains caused by wrenching on the chassis during regular service and by accidents. The two most popular as well as the most practical types of tanks for truck service are the oval or elliptical tank and the semi-rectangular, that is, a tank with a square bottom and sides and a silghtly arched roof. The latter type of tank is very popular with a great many oil companies, even though it requires more metal and consequently more weight for the same gallonage. This type allows a slightly better distribution of the load and does not waste space on the chassis which, when the oval tank is used, must be covered over or floored to avoid splashing the tank with mud. It also lowers the center of gravity of the load but can not be quite as easily drained as the oval type. When considered from every standpoint the oval or elliptical tank has slightly more points in its favor than the semi-rectangular tank.

One of the causes for overloading is the fault of everybody connected with the design and purchase of the completed truck. The oil companies do not completely equip their trucks at the outset and both they and the truck manufacturer fail to give to the tank designer the total weight of accessories to be used. This weight must, of course, be deducted from the combined weight allowable for body and load. The designer on the other hand, fails thoroughly to investigate the various weights to be added with the result that a very undesirable overload occurs.

The National Automobile Chamber of Commerce has adopted the following definition for a standard chassis for gasolene commercial vehicles: "A standard chassis of a commercial vehicle to be propelled by an internal-combustion engine shall consist of an assembly of all essential parts of a truck chassis with protective housings, ready for operation on the road, including a minimum equipment consisting of a set of tires attached to the wheels, a driver's seat with padding or cushion on all chassis rated at 1-ton capacity or more, front wheel fenders, running board or mounting step, tool compartment, priming coat of lead on all parts to be painted, pair of front lights and one tail lamp, license brackets, warning signal, jack, and a set of tools commonly used for making adjustments and minor repairs on the road." The manufacturer usually gives the weight of his chassis based on this definition. The chamber also has a certain body weight allowance in addition to the live load which is applied to trucks of the various capacities.

Truck Capacity in Tons.	Body Weight Allowance in Pounds.	
	As Provided by Truck Makers.	As Recommended by the N. A. C. C.
¾	600 **750** 850 900	
1	720 750 **900** 950	1,200
1½	1,050 1,100	1,200
2	1,000 **1,200** 1,250 1,300 1,500	1,500
2½	1,200 1,350	1,500
3	1,500 2,000	2,000
3½	1,400 1,500 1,600 2,000	2,000
4	1,700 2,300	2,000
5	1,500 1,800 2,500	2,500
5½	1,850 2,000	2,500
6	1,900	2,500
7	2,000	2,500
7½	2,000 2,100	2,500

The body weight allowances used by some of the principal manufacturers of trucks are shown below. These figures cover pretty generally the range of maximum weights now in use. Those shown in bold face type are those in most general use.

It is quite evident from the definition given by the National Automobile Chamber of Commerce that the following equipment or accessories must be carefully weighed and considered as an excess body load and subtracted from the live load. In other words the weight of the skid chains and fastenings, difference in weight of wheels and tires usually furnished and those recommended in these specifications, hubodometer, governor, bumper and radiator guard, towing eyes, cab curtains, windshield, battery and battery-box, generator, truck tank, cradles and sills, can-box, buckets and funnels, piping, faucets, rear bumper, unloading hose, side can-racks, gasolene and lubricating oil to be delivered, and the cans should equal but net exceed the body weight allowance plus the live load, both as specified by the manufacturer. It is hoped that truck manufacturers will more nearly standardize in all matters of this character in the near future, as it will in turn very materially assist the oil companies and tank builders in a standardization of their equipment.

A rough check may be obtained for preliminary weights as follows: The weight of the tank together with its cradle, heavy piping, faucets, bucket box, bumper and side can rails for tanks of 400 gallons or less is approximately 3.25 pounds per gallon of capacity; for tanks holding from 400 to 800 gallons 2.75 pounds per gallon of capacity, and for tanks holding more than 800 gallons 2.50 pounds per gallon of capacity. Figuring very roughly 11 gallons added to the capacity of a tank of No. 10 gage metal will add approximately 100 pounds to the body weight and live load. When buying, the entire proposition should be carefully calculated as outlined herein. The trouble has been in the past that it has been largely a matter of guess work by practically everybody concerned.

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It can be readily seen that it is not practicable to attempt to put in tabulated form the various sizes of tanks best suited to any capacity truck, inasmuch as the total capacity is controlled by the body weight allowance and accessories included in the factory weight of the particular chassis to be used and by the number of compartments, size of can—box, and type and capacity of can rails. For example, the careful calculation of the capacity for oval tanks on two 2½-ton chassis of different makes developed the following figures.

Truck No. 1, Not Equipped with Can Rails.

1 Compartment with bucket box 680 gallons.

1 Compartment without bucket box 690 gallons.

2 Compartments with bucket box 665 gallons.

2 Compartments without bucket box 675 gallons.

3 Compartments with bucket box 650 gallons.

3 Compartments without bucket box 660 gallons.

Truck No. 2, Equipped with Can Rails.

1 Compartment with bucket box 580 gallons.

1 Compartment without bucket box 590 gallons.

2 Compartments with bucket box 565 gallons.

2 Compartments without bucket box 575 gallons.

3 Compartments with bucket box 550 gallons.

3 Compartments without bucket box 560 gallons.

Truck No. 2, which was in about the same class as to construction and price, could not handle within 40 gallons of the above quantities without being overloaded.

MANAGERS should realize that there is a limit to the amount of lubricating oil that can be carried economically in connection with a truck which is considered for the distribution of gasolene. I have seen trucks carrying so many cans of lubricating oil that the gasolene load was a comparatively small one and it would have been far cheaper to send out stake trucks with the lubricating oil and allow the gasolene truck to be equipped with a tank which would handle a capacity load. This is not a hard problem but one which should be given careful consideration.

The question of the capacity of individual compartments in tanks of more than one compartment is one which is in a great many cases improperly decided by the oil company without being considered from an engineering standpoint. The capacity of each compartment is governed by the distribution of load between the axles, the overhang of the tank beyond the wheelbase and the weight of compartment bulkheads. Practically all trucks are so designed that the greater capacity compartment will be in front and the smaller compartment in the rear.

The following rule is sometimes used to obtain the preliminary figures as to the capacity of the different compartments and will be found to apply very roughly to a great many chassis. In 2-compartment tanks the ratio of the front and rear compartment is approximately as 3 is to 2 and in 3-compartment tanks it is as 9 is to 7 is to 4. That is, in a 2-compartment tank, whose total capacity is 1,000 gallons, the front compartment would contain 600 gallons and the rear compartment 400 gallons. In a 3-compartment tank of the same capacity the front compartment would contain 450 gallons, the middle compartment 350 gallons, and the rear compartment 200 gallons.

THE maximum number of compartments that can be used is also another question of economics. It is, of course, dependent in a large degree on the class of customers to be served by the oil company, whether they buy in small quantities or large. As a general rule the following tabulation will apply.

Trucks of ¾-ton capacity, 1-compartment only.

Trucks of 1 to 1½-ton capacity, 1 or 2 compartments.

Trucks of 2 to 3½-ton capacity, 1, 2 or 3 compartments.

Trucks of 4-ton capacity or over, 1, 2, 3 or 4 compartments.

In order to secure additional gallonage on a truck the mistake is sometimes made of building the tank of too light material. The gages specified in the table are as light as should be used and at the same time are heavy enough to give rigidity and strength. Occasionally leaks will develop in the bulkheads of compartment tanks. This becomes a very serious matter when different compartments are used for different commodities. Serious accidents are likely to be caused and to be followed by costly damage suits by kerosene being contaminated with gasolene. Heavy loss is also likely to occur through the contamination of lubricating oil by either gasolene or kerosene. The best method to determine in just what bulkhead such a leak is located is to have a drain cock in the space between the bulkheads.

To facilitate accurate accounting, checking of stock and employees and also to assist the tank loaders a permanent gage mark should be made in each compartment.

Manholes are almost indispensable, especially in compartment tanks when a leak develops in the bulkheads. The criticism in the past has been that they were designed so as to incorporate too much weight and in many instances they were of such small diameters that they would not permit even a small man to enter the tank. Another item for criticism in the past has been the design and size of the filter plug in the center of the manhole. This plug should be of such design as will allow it to be opened and closed by hand and at the same time not become loosened by vibration on the road. It is extremely poor practice to allow the use of a hammer in loosening a plug. It not only soon ruins the thread but a spark is often made which may result in a bad fire. Plugs that are designed to be opened and closed with either a spanner or a socket wrench usually end by being ruined with a hammer because the wrench has become lost or mislaid. The use of a hammer has also been the cause of ruining a number of vents.

Any motor truck to work efficiently, that is, to show an earning in the transportation of merchandise, must use a comparatively small percentage of its working hours in standing still for loading or unloading. Less than three years ago some truck tanks were still being constructed with 2-inch filler plugs. To-day a 4-inch and usually a 6-inch filler plug is in almost universal use, while one company is experimenting with an 8-inch plug on some of its larger units.

The area of a 2-inch plug is 3.14 square inches, while the area of a 4-inch plug is 12.56 square inches, or nearly four times as large, and a 6-inch plug has an area of 28.27 square inches or nine times that of a 2-inch plug. It is, therefore, readily understandable that, if the truck filling rack is properly designed and is equipped with a large pipe and quick-acting valves, a truck receiving its load through a 4- or 6-inch opening will be loaded and ready to start on its route in less than a third of the time required for the truck equipped with a 2-inch opening from the same head or pressure and small piping. This may seem a small item, but at distributing plants, where a fleet of trucks from 10 to 20 in number fill every morning or at other times in the day, it may mean from 1 to 2 hours or possibly a full load delivery for the last trucks coming to the filling rack.

Every tank, regardless of its size, should be equipped with surge plates. This will tend in a measure to stop the violent shifting of the liquid when the tank is only partially loaded. Care should be used to see that they are so designed and placed in the tank that a man can enter for the purpose of making repairs, etc.

THE piping of the tank is one of the most vital questions we have to consider in connection with the design of this class of equipment and plays an extremely important part in the earning power of the truck. The principles involved are generally the same as those governing the size of filler plugs. The old time horse-drawn tank wagons were piped with ¾-inch and later with 1-inch pipe. When the motor truck first entered the field of gasolene distribution motor tank wagons were equipped with 1- or 1½-inch pipe. The 1½-inch is being used by the majority of tank builders and oil companies to-day. In the summer of 1918 experiments with 2-, 3- and 4-inch pipmg were conducted by one of the oil companies for dump load business. A 1½-inch pipe has a discharge area of approximately 1.76 square inches while a 3-inch pipe has a discharge area of 7.06 square inches or about four times as great although the diameter has only been doubled. It does not follow that the actual discharge in gallons per minute from a tank truck is going to be in the same proportion, as the rate of discharge is governed by the head or depth of the liquid which is constantly diminished as the discharging process proceeds. The larger pipe will, however, greatly decrease the actual time spent in unloading, and will also reduce friction which in turn reduces unloading time.

A truck carrying a 1,500-gallon 3-compartment tank with 1½-inch pipe required

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1 hour and 26 minutes to unload and when equipped with 3-inch piping required only 28 minues, or a saving of 66⅔ per cent. in the actual unloading time. It was found that trucks with the larger piping were able, as a general thing, to deliver one extra load a day, and in one case a fleet of 22 trucks was reduced to 16 and at the same time actually delivered a greater gallonage. The net result was that the cost of delivery per gallon was reduced from 1½ cents to 0.6 cent. It must be remembered that this is an actual added profit of 0.9 cent per gallon. Experiments are now being conducted with still larger capacity trucks equipped with 4-inch piping and it is believed that they will reduce the cost of delivery per gallon another 0.25 cent.

IT is, of course, understood that, in order to carry out the above piping scheme and reduce the unloading time, it is necessary to use larger fill pipes on the underground storage tanks and in a number of cases it will also be necessary to substitute larger storage tanks for those now in use at filling stations and other bulk customers. It is very seldom economy to leave the distributing plant with less than capacity loads. One oil company has in the past two years replaced an extremely large number of storage tanks varying in size from 500 gallons to 2,000 gallons, and has always doubled and sometimes trebled the capacity. These tanks were not only at its own filling stations but also at garages and other customers whom it was serving.

The size of the fill pipe should be of a diameter enough larger than that of the piping on the truck to allow an easy entrance of the hose and also for additional venting. The sizes which follow will meet all requirements in this respect.

Size of Truck Piping in Inches.	Size of Fill Pipe in Inches.
1½	2
2	3
3	4
4	6

On single compartment tanks of 600 gallons or more capacity, it is well to use a flange of greater diameter than the piping, so that the piping may be further enlarged at any time in the future without the expense and loss of time incurred in putting on new flanges. Some tank builders will protest against the practice of large piping because of the additional weight and extra cost of the piping. If the entire design is properly worked out, this additional weight will not affect the gallonage which can be carried and the added cost becomes almost a negative quantity when compared with the reduction in the cost of delivery. Large piping will be of vital necessity should an auxiliary truck transport system be organized to work economically for the purpose of delivering large quantities between centers of population at such times as rail systems or any part of them might become paralyzed from any cause which would prevent the normal use of the tank cars.

When trucks are to be used in a bucket delivery service, the piping should be reduced to 2 inches by the use of a swedge nipple, and a 2-inch tank wagon faucet should be used. This is the largest faucet which can be used for filling a 5-gallon tank wagon bucket without spillage. This method will allow the truck to be changed from a bucket service to a dump-load service vehicle with hose service or vice versa in a very few minutes.

The larger piping, on account of its additional weight is slightly more apt to develop leaks through the vibration caused by poor roads. To provide properly against such an accident with its resulting loss of stock and the probability of fire, to insure accurate loading and gaging of tanks, to make possible the rapid and safe putting on and removal of faucets and to prevent the loss of stock through faucets opened by road vibration, each compartment should have accurately fitted into the inlet side of the discharge flange a quick-acting emergency valve, and should be operated by a lever at the top of the tank. These valves should always be kept closed except when a compartment is actually discharging. The absence of emergency valves on a tank truck of gasolene was recently the cause of a fire resulting in over $50,000 damages which were finally paid for by the oil company.

Another thing that should be carefully watched is the arrangement of the piping to see that all unnecessary bends and angles are eliminated. An unnecessary bend causes friction and results in a slower discharge. It is never necessary to use more than one 90-degree and one 45-degree elbow in a line and yet I have seen any number of trucks with three 90-degree elbows in the line.

Tanks have been built with a 1½-inch flange, a short 1½-inch nipple, a tee of the same size and two 1½-inch lines to the rear of the truck, each line containing a 90-degree ell, under the belief that the two lines should unload faster than one. As a matter of fact the two lines, on account of the unnecessary ells, were actually slower than a single line of the same size properly laid out would have been. The only way in which these two lines could be made to work faster would be to use a pump, which would be the same as increasing the head. All pipes should be carried in hangers from the under side of the cradle as an additional precaution against leaks. The thread on the end of the pipe where the faucet is to be attached, all threads on the faucet, and the threads on the hose connections should be the same for all trucks in order that hose and faucets can be readily interchanged on all units.

The rear end of the piping and faucets should be protected by a substantial bumper. The absence of the bumper on a loaded tank truck has also been the cause of one or two disastrous fires. The piping and faucets should be so spaced and the bumper so designed that a tank wagon bucket can be hung on all faucets at the same time.

The tank cradle may be either of wood or padded metal bolsters placed directly on the chassis frame or on the wood sills attached to the frame. A type of cradle known as the "steel partition mounting" is coming into use by some companies. It consists of steel bolsters resting directly on the frame. The cradle is really formed by an extension of the compartment bulkheads. It is claimed that this type of construction gives a considerable reduction of weight without any loss of strength or rigidity. Regardless of the type of cradle used the frame of the chassis should never be weakened by drilling it in order to secure a fastening. U-bolts or similar fastenings should be employed. The fastening of the tank to the cradle of the wood or metal bolster type is best accomplished by passing straps over the tank and into or through the bolsters and making them adjustable by the provision of turnbuckles. On tanks of extreme length sway braces should also be used.

ONE oil company endeavored about four years ago to solve its transportation problems by designing a platform body with rollers in the bed and with platforms at the loading rack the same height as the body of the truck and also fitted with rollers. The sills and the cradle were designed so that the tanks could be moved between the chassis and the loading platform and be locked into position when on the chassis. For a fleet of 10 chassis working out of one plant it employed 15 tanks. Empty tanks were run on to the truck loading platform and filled while the trucks were delivering. When a truck came in, the empty tank was taken off and placed on the filling rack platform, and a loaded tank taken out immediately. In this way a chassis did not stand idle while being filled and it was found that a truck actually delivered a third more gallonage. However, the system was finally done away with as the maintenance on the chassis, tank and loading platform became excessive and a great deal of additional labor was required to move the bodies.

The bucket-box should be of such size as will accommodate all the buckets, funnels, etc. The practice of carrying them on hooks, on the faucets, or on the top of the bucket box is a poor one, and for this reason the round top type is specified. Experience has shown that the bucket-box will give better service if welded to the rear of the tank than when fastened to the sills only. A metal box is far better than a wood one, while a metal box with

DETAILS OF TRUCK TANKS.

Capacity of Tank in Gallons.	Gage of Metal.	Diameter of Tank Flange in Inches.	Diameter of Piping in Inches.	Size of Swedge Nipple in Inches.	Size of Faucet in Inches.	Size of Hose Connection in Inches.	Size of Emergency Valves in Inches.
Under 225	16	2	2	None	2	2	2
225 to 300	14	2	2	None	2	2	2
301 to 400	14	3	3	3x2	2	3	3
401 to 750	12	3	3	3x2	2	3	3
751 to 900	12	4	3	3x2	2	3	4
901 to 1,500	10	4	3	3x2	2	3	4
1,501 to 2,000	7	4	3	3x2	2	3	4
2,001 to 2,500	7	4	4	4x2	2	4	4

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SPECIFICATIONS FOR MOTOR TRUCK OIL-TANKS TO BE USED IN THE DISTRIBUTION OF PETROLEUM PRODUCTS.

Tank Shape and Capacity.—The tank shape shall be elliptical or semi-rectangular at the option of the purchaser. When the tank is to contain more than one compartment the compartments shall be separated by double bulkheads 1 inch apart. The capacity in United States gallons of each compartment shall be calculated to conform to the requirements of the chassis manufacturer for distribution of the load. The length of the tank shall conform to the guarantees of the chassis and tire manufacturers. The metal shall be of such gage of open-hearth steel as shown in table given herewith. All joints shall be carefully welded or riveted and soldered at the option of the purchaser. Each compartment shall be provided with a permanent gage mark indicating its capacity. Drain cocks shall be placed in the bottom of tanks between each set of double bulkheads.

Manholes.—Each compartment shall be provided at the top with a manhole not less than 14 inches in diameter. A cover shall be screwed into the opening. In the center of the cover shall be an opening not less than 6 inches in diameter fitted with a screw-plug which shall be fitted with suitable handles or projections to facilitate removal by hand. A ¼-inch duplex tank vent shall be mounted on the upper surface of the screw-plug. The filler plug shall be fastened to the manhole cover by a chain.

Surge Plates.—A removable longitudinal surge plate shall be provided in each compartment. All surge plates shall be open at the top to allow the entrance of a man into the tank and shall be cut away at the bottom about 1 inch in depth for at least one-half their length to allow equalization of the liquid.

Piping.—All flanges, piping and fittings shall be of the sizes shown in the table given herewith. Each compartment shall have one flange placed at the bottom and rear of the compartment. Into the flange shall be screwed a nipple, thence a 90-degree elbow, thence piping of the required size to the rear of the can-box, where it is reduced at the faucet to 2 inches by the use of a swedge nipple. Where bends in the pipe are necessary, the maximum bend allowed shall be 45 degrees unless otherwise specified. The faucets shall be 2 inches in diameter and of such manufacture as the customer may dictate. The faucets shall be placed approximately 16 inches apart. All piping shall be made with shellac in the joints and shall be properly supported by hangers. The faucets shall be protected from impact from the rear by a bumper of such type as may be approved by the purchaser and shall be attached to the sills, or in such other manner as may be approved by the purchaser. The threads at the end of the pipe where the faucet is to be attached and all threads on the faucet and the threads on all hose couplings shall be Briggs U. S. standard hose thread unless otherwise specified by the purchaser.

Emergency Valves.—Each compartment shall be equipped with an emergency valve of the proper size for the tank in question as shown in the table given herewith. These valves shall be accurately fitted to the inlet side of the discharge flange and shall be controlled from the outside of the top of the tank by a quick-acting handle.

Bolsters.—The tank shall rest on wood or padded metal bolsters only, or on bolsters on wood side-sills at the option of the purchaser. All woodwork shall be of ash or oak. Suitable provision shall be made for fastening the tank to the bolsters, and the tank and its cradle shall be constructed as an independent unit. This portion of these specifications shall not apply where the "steel partition mounting" type of cradle is employed.

Suitable provision shall be made for fastening the mounted tank to the chassis frame without drilling the frame or otherwise weakening it. When elliptical tanks are used, an apron of metal or wood covered with 24-gage metal, which will serve as a mud-guard, shall be provided and shall extend from the bottom of the tank to the sills.

Bucket-Box.—A bucket-box of the round top type and 17 inches deep on the inside shall be welded to the rear end of the tank. The top of the box shall conform in general to the lines of the tank but shall not be less than 23 inches high or less than 52 inches wide. A metallic counter shall be attached to the inside of the door.

Can-Racks.—When so ordered by the purchaser there shall be fastened to the tank mountings, either permanently or as a demountable feature, can-racks of such design as shall be approved by the purchaser.

Drawings.—The manufacturer shall submit with his bid detailed drawings showing all dimensions and covering the method of constructing and mounting tanks and tank accessories, can-box, can-racks, manholes, emergency valves, piping and all other parts which may be necessary to complete the mounted unit, and the method of fastening the unit to the chassis frame. The manufacturer shall also furnish accurate information regarding the exact weight of the tank, cradle, manholes, and other individual parts and of the completed unit.

Painting.—The tank shall be delivered to the purchaser in the lead unless otherwise specified. When the finished painting is to be done by the tank manufacturer, it shall be in accordance with the specifications which will be furnished by the purchaser. A separate bid shall be made to cover the painting.

SPECIFICATIONS FOR STAKE BODIES FOR MOTOR TRUCKS TO BE USED IN THE DISTRIBUTION OF PETROLEUM PRODUCTS.

General.—The body shall be 56 inches wide inside; the length to be determined from chassis specifications. The floor shall be 48 inches from the ground when the truck is fully loaded. Along each side, and extending 37 inches from the front of the body, shall be one solid wood panel, 24 inches high by 37 inches long. This panel shall be supported by two stakes and shall rest upon the floor. The stakes shall be 40 inches long. The body shall be provided with three removable chained gates; one at the rear and one on each side at the center. The side gate openings shall be 44 inches wide. The gates shall be made up of stakes and three horizontal panels, each panel being approximately 3 inches wide. The side section of the body between the middle gate and the rear of the truck shall be stationary and similar to the gate. The rear gate shall be made in one single gate, construction to be similar to that of the side gates. Each gate shall be secured to the adjoining sections by means of chains fastened near the tops of the stakes. The floor or platform shall be made of maple, bound by angle-irons. It shall be protected by band irons placed 6 inches apart, running lengthwise of the body. Side stakes are to be of oak; cross-sills of best white ash, bolted to the subsill. All bolt heads in the platform shall be flush. Where stakes enter the floor in the body, cast-steel stake-sockets are to be provided. The bottoms of the stakes are to be ironed.

Fastenings.—Provisions shall be made for fastening the completed body to the chassis frame without drilling the frame or otherwise weakening it.

Drawings.—The body manufacturer shall furnish detailed drawings showing all dimensions and all details of construction, the method of fastening the completed body to the chassis and shall furnish the exact weight of the completed body.

Painting.—The body shall be delivered to the purchaser in the lead unless otherwise specified. When the completed painting is to be done by the body manufacturer it shall be in accordance with the specifications which will be furnished by the purchaser. A separate bid shall be made to cover the painting.

SPECIFICATIONS FOR THE PAINTING OF NEW AND THE REPAINTING OF OLD TANK TRUCKS, TANK WAGONS, STAKE WAGONS, STAKE TRUCKS, TRUCK AND WAGON TANKS, SERVICE CARS AND SALESMEN'S PASSENGER CARS TO BE USED IN THE DISTRIBUTION OF PETROLEUM PRODUCTS.

Chassis, Mountings and Cab.—To be thoroughly cleaned with gasolene to remove all grease and dirt, then washed and sanded.

One coat of metal primer. (Omit on repaint jobs.)

One coat 50 per cent. metal primer and 50 per cent. white lead thinned with pure spirits of turpentine. (Omit on repaint jobs.)

Two coats of any desired color ground in Japan.

Sanded between coats.

Mark and pencil the lettering and striping with whiting.

Letter and stripe in desired color, flat.

Clean and wash after 36 hours.

Two coats of extra pale auto rubbing varnish, rubbed.

One coat gear finishing varnish.

Chassis—Wheels.—One coat of metal primer. (Omit on repaint jobs.)

One coat 50 per cent. metal primer and 50 per cent. white lead, thinned with pure spirits of turpentine. (Omit on repaint jobs.)

Sanded between coats.

Mark and pencil, striping with whiting.

Clean and wash after 36 hours.

One coat gear finishing varnish.

Two coats of desired color ground in Japan.

Wheels to be striped with desired color ground in Japan, flat.

Two coats of extra pale auto rubbing varnish, rubbed.

One coat of gear finishing varnish.

Tanks.—Three coats of metal primer, sanded. (Omit on repaint jobs.) If conditions are bad use one coat of metal primer and sand.

One coat of 50 per cent. metal primer and 50 per cent. white lead, thinned with pure spirits of turpentine.

One coat of white lead or white sanding filler as specified by the truck owner, thinned with pure spirits of turpentine to a brushing consistency.

One coat of 50 per cent. white lead, flat; 50 per cent. auto enamel, to be rubbed.

One coat of rubbing enamel, rubbed.

Letter and stripe in desired color, flat.

Clean and wash after 48 hours. If gold, silver or aluminum leaf is to be used in connection with lettering or striping, it should be applied at this point.

Two coats extra pale auto rubbing varnish, rubbed.

One coat extra pale elastic auto finishing varnish.

Can-Rack and Can-Box, and Stake Bodies.—To be painted in accordance with the specifications given above for tanks except that all parts of wood shall be given two coats of white lead primer instead of metal primer. The inside of the can-box should receive two coats of the desired color but no varnish.

Salesmen's Passenger Cars.—To be painted in accordance with the specifications given above for Chassis—Wheels.

Metal bodies to be considered the same as tanks.

After job is completed, allow to air-dry in a warm dust-proof room for 7 days and then spray with cold water two or three times before putting into service.

Every coat should be thoroughly air-dried before the next coat is applied.

Never, under any circumstances, apply fresh paint to a damp surface.

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a wood lining is believed to be the best. Two types of doors are in general use. The double-swing door with side hinges is the type in most general use, although I prefer the single door hinged at the top.

The side can-racks may be any one of a number of types now on the market. It is largely a matter of choice. The floor is usually of wood with rails of open pipe work or of pipe with sign panels of wood. The opening or gate for getting the cans in and out may be of chain or telescoping pipe. These guard-rails are also constructed of wood with sign panels and may be hinged at the bottom to drop down or may be of the stake and socket type.

The question of drawings is as important in this case as in that of the chassis, therefore, the tank manufacturer should be required to submit detailed drawings showing all dimensions and methods of construction and all weights should also be accurately given. Everything should be carefully checked by both the oil company and the chassis manufacturer.

Stake bodies as employed by the oil companies in the delivery of their products very seldom cause any serious trouble by their being overloaded except from two causes. The first comes from exceeding the body weight allowances by building too heavy bodies and the other from giving the bodies an overlength which will allow an overload when carrying filled barrels of oil or grease. Empty barrels and package goods are hardly ever the cause of an overload. If the specifications are followed as to width and length, the truck will not be overloaded when the floor of the body is covered with one tier of filled barrels standing on end. The requirements as to the height of body when loaded and the arrangement and size of the gates will be found most convenient for either side or rear end loading and unloading from nearly all platforms.

Several changes in the painting and repainting of the rolling equipment used by oil companies have taken place during the past year. Heretofore a number of the companies in painting the tanks have made a practice of applying one coat of knifing surface immediately after sanding the priming coat. This has been practically discontinued for the reason that it neither adds greatly to the appearance nor increases its life. On the other hand, it has been the cause of a considerable amount of more or less unsatisfactory work for the reason that this knifing surface comes in the form of a paste. If not properly thinned and applied by a man who is perfectly familiar with both the thinning operation and the nature of the particular surface to which it is to be applied, it is likely to be improperly put on with the result that it will not dry, but will accumulate moisture and flake or chip.

If the accompanying specifications are complied with, it should be unnecessary, except in cases of accident, such as a collision in which the paint has been broken through for several coats, to repaint a truck oftener than once in two or three years, and at the same time keep the equipment in a good looking condition. The finish should be carefully looked over every two or three weeks, and when it is found that the upper or top coat of varnish has begun to break down, crack, or is getting in poor condition from any cause, it should be rubbed down, care being used not to rub through the second coat. Then give one coat of the finishing varnish and allow to dry thoroughly. If this method is followed, that is, the finishing coat of varnish being replaced at intervals of three to six months or before the next coat of rubbing varnish has begun to break down, it should not be necessary to repaint the truck or reletter it oftener than once in two or three years.

The life and appearance of the paint of the rolling equipment can be improved considerably through the process of washing. The trucks should be washed at least three times a week, using soap as sparingly as possible. When necessary to use soap, it should be a pure potash soap containing no alkali. The water should not be heated above 75 degrees Fahrenheit. After all grease and dirt have been loosened by the action of the soap, the vehicle should be thoroughly rinsed off and finally sprayed with cold water. The finish on a well-painted truck should be treated in a manner very similar to that of a first-class passenger car.

Field Man Uses Truck

H. G. Dustman, southeastern sales representative of the Stoughton Wagon Company of Stoughton, Wisconsin, beats the old H. C. of L. in a novel manner. He and his wife travel in elegant state through the eight states embraced in his territory. In their portable motor home they enjoy all the comforts of a snug little apartment.

The wheeled residence was Mr. Dustman's idea. It was built in the truck division of the Stoughton factory. The body was a special job. It was mounted, however, on an ordinary Stoughton 1½-ton chassis. The car weighs 6,450 pounds and carries a 40-gallon gasolene tank and a 10-gallon reserve supply tank. It has a copper roof covered with oil duck and is equipped with 35 by 5-inch tires in front and 38 by 7-inch tires in the rear. The body is about 21 feet long and is constructed of poplar and maple. The inside dimensions are 15 by 6¼ feet, with a 76-inch ceiling. There are 11 handsome beveled glass windows, each of which has artistic, colorful draperies.

The "house" is equipped with indirect electric lights, electric fans, kitchen and dining-room fixtures, a full-sized bed which folds up into a divan by day, upholstered window seats that cover steamer-trunk clothes closets and three mirrored toilet and medicine cabinets. The dining table is collapsible and fits neatly beneath the bed when not in use. In addition to these conveniences Mr. Dustman carries a compact office set, including a filing cabinet and typewriter. While he drives, Mrs. Dustman runs the "office," which presents a busy appearance during the day. Here he carries on all his regular correspondence and keeps in close touch with the various branch dealers and distributers in his territory.

"This arrangement is much more satisfactory than traveling by rail and stopping in hotels," Mr. Dustman said, "and it is much cheaper. My only expenses are for gasolene and food. And we have barrels of fun touring in our private car. I think the pleasant driving makes me more fit for business, too."

The equipage always attracts wide attention when it rolls into a town or city and results in much advertising for the Stoughton company. Frequently it results in a truck sale on the spot, because Mr. Dustman is never without a demonstrator. Whether he is "at home" or "at the office" he can always exhibit his wares. Mr. Dustman's headquarters are in Jacksonville, Florida, but the greater part of his time is spent in his wheeled home traveling through the Carolinas, Georgia, Florida, Alabama, Louisiana, Mississippi and Tennessee.

Versatile Motor Trucks

Hauling everything from chickens and lamp-black to teakwood and paper with a fleet of 82 trucks, the General Motor Truck Corporation of Philadelphia found numerous occasions and a variety of ways to play the hero role recently in emergencies created by the strike of railway yardmen.

Among the first to feel the pinch of paralyzed freight and express service were produce dealers. Orders that could not be met were accumulating from Quaker City hotels, clubs and stores until several trucks of the General Motor Truck Corporation fleet went down into Virginia and returned with thousands of live chickens.

It wasn't a long time until the phantom of a paper shortage appeared in the stock rooms of a number of the leading magazine and newspaper publishing companies in New York. Again trucks were thrown into the breach. By hauling paper from mills at Elkton, Maryland, to the metropolis in about 16 hours, the trucks carried the publications over a shoal.

The Sun Ship Company of Chester, 12 miles south of Philadelphia, needed a shipment of teakwood from Binghamton, New York, at once. But "at once" is rather a big stipulation with a shortage of cars and switchmen on strike. Again trucks offered a way out. A 5-ton truck was dispatched to Binghamton, a distance of more than 250 miles from Philadelphia, and the teakwood was hauled to Chester. The Sun Company was enabled to complete its shipment in contract time.

Another distance run was that of several trucks from Camden to Providence, Rhode Island, and return to Philadelphia. From Camden they carried cargoes of lampblack for the United States Rubber Company. Returning they delivered solid tires to the Philadelphia branch of that company. Detours ran the mileage of the trucks on this round trip to 700 miles instead of the normal 285 miles each way.

The Vacuum Muffler Corporation of America has moved its offices and factory to 220 Fifth street, Bridgeport, Connecticut. It has been forced to build this new factory to increase production to meet the demands for Vacuum mufflers, which are now made for internal-combustion motors of all kinds. C. S. Shuman, general manager of the company, will also move to Bridgeport and the general offices will be located there. Erling Christopherson and Oluf Klaer, president and treasurer, respectively, of the company, will remain in New York, where they are also connected with another concern.

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$400,000,000 for Roads in 1919

By ANDREW P. ANDERSON

DURING the calendar year 46 states of the union expended a total of over $400,000,000 on their rural roads and bridges. This total is made up of the actual cash expenditures for such items as labor, materials, supervision and administration, amounting to $389,455,931, and convict labor and statute labor, the value of which is not definitely known but which is estimated at about $12,000,000. So far as possible all expenditures on city streets within incorporated towns and cities and all items of sinking-fund payments or the redemption and interest payments on road and bridge bonds have been excluded.

The road and bridge expenditures for 1919 show an increase of approximately 33⅓ per cent. over those of 1918 and 70 per cent. over those of 1914. More striking, however, is the increase in the proportion of the total funds supervised by the several state highway departments. In 1918 the expenditures by or under the supervision of the state highway departments amounted to $117,285,268, while the local road funds, over which they exercised no control whatever, amounted to $168,812,925. In 1919, however, the state highway departments supervised the expenditure of $200,292,694 as against the total of $189,163,237 expended by the local road and bridge authorities.

The year 1919 was one of unusual activity in practically all lines of highway work. During the war all work of this nature was curtailed in every possible way, often to the great inconvenience of the public. Consequently, at the close of hostilities road activities soon began to claim their full share of public attention. In fact, in every state ambitious plans were immediately laid and definite action to secure their approval was begun.

The first and most striking development in this movement related to the provision of adequate funds. Between November 1, 1918, and December 31, 1919, state highway bonds amounting to a grand total of $234,800,000 were voted as follows:

Illinois	$60,000,000
Michigan	50,000,000
Pennsylvania	50,000,000
California	40,000,000
Oregon	12,500,000
Maine	10,000,000
South Dakota	4,500,000
Utah	4,000,000
Wyoming	2,800,000
Nevada	1,000,000

ROAD AND BRIDGE EXPENDITURES, 1919.

State.	Source of Funds Expended under Supervision of State Highway Departments.				Distribution of Expenditures.						State Funds Available, 1920 (approximate).	Local Road and Bridge Expenditures, 1919, Not under State Highway Department (approximate).
					Construction.		Maintenance Roads and Bridges.	Engineering.	Administration.	Equipments (miscellaneous).		
	Federal.	State.	Local.	Total.	Roads.	Bridges.						
Alabama	$284,430.88	$ 65,002.60	$ 262,979.91	$ 612,413.39	$ 501,374	$ 51,129	.....	$ 36,358	$ 20,008	$ 3,543	$ 2,000,000	$ 1,200,000
Arizona[1]	66,738.99	1,451,336.71	[2]	1,518,075.70	1,023,215	33,920	$ 86,381	140,152	49,520	184,887	1,250,000	2,500,000
Arkansas	76,874.27	585,193.00	6,218,972.63	6,881,040.00	6,496,100	[3]	.....	341,900	93,040	.....	407,847	2,500,000
California	498,795.45	6,568,093.39	79,999.91	7,146,888.75	4,772,924	[3]	1,363,901	488,195	249,083	272,786	10,000,000	[4]12,350,569
Colorado	20,000.00	1,775,000.00	500,000.00	2,295,000.00	1,020,000	[3]	1,000,000	80,000	65,000	130,000	2,200,000	2,000,000
Connecticut[5]	[12]	2,293,397.11	92,536.69	2,385,933.80	828,466	360,500	931,383	70,235	81,574	113,776	4,000,000	1,458,033
Delaware	[6]	1,147,080.26	646,464.70	1,793,544.96	1,638,227	57,558	4,614	56,309	16,373	20,464	1,500,000	200,000
Florida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Georgia	426,704.47	.....	490,710.13	917,414.60	653,658	217,886	.....	45,870	[7]	.....	1,500,000	6,000,000
Idaho	410,000.00	850,000.00	540,000.00	1,800,000.00	1,095,000	118,000	176,000	283,000	48,000	80,000	1,000,000	2,500,000
Illinois	[12]	4,403,944.89	2,119,902.13	6,523,847.02	5,649,719	[3]	128,319	538,548	90,780	116,481	12,497,502	10,000,000
Indiana	236,288.89	400,691.10	565,000.00	1,201,979.99	995,221	10,000	.....	110,352	7,593	78,814	5,294,000	17,500,000
Iowa	.....	614,090.64	16,158,946.71	16,773,037.35	2,174,335	4,404,822	8,842,134	598,479	20,480	732,787	6,000,000	.....
Kansas[10]	187,586.63	47,500.00	458,046.80	693,133.43	575,213	70,420	.....	47,500	[7]	.....	60,000	10,334,363
Kentucky	226,395.00	926,200.00	650,713.75	1,803,308.75	1,460,430	[3]	.....	112,803	29,254	200,822	1,500,000	2,000,000
Louisiana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maine	65,011.60	1,739,118.72	970,374.32	2,774,504.64	1,491,937	327,953	790,701	76,623	46,981	40,309	3,594,000	1,750,000
Maryland	590,555.28	2,237,184.79	636,767.92	3,464,507.99	1,857,649	.....	1,464,867	96,995	22,809	22,189	2,900,000	3,500,000
Massachusetts	10,119.00	3,619,849.00	[5]589,915.00	4,219,883.00	1,181,172	[3]	2,228,706	259,902	63,242	486,861	6,920,227	6,005,000
Michigan	618,218.42	4,245,593.23	1,645,288.54	6,509,100.19	4,990,215	551,280	408,038	232,059	165,766	161,742	5,000,000	10,015,644
Minnesota	739,138.09	2,690,585.65	4,667,961.47	[8]8,097,685.21	5,129,769	806,925	1,582,834	538,967	39,190	.....	2,371,343	5,125,000
Mississippi[2]	98,000.00	40,000.00	252,000.00	390,000.00	350,000	[3]	.....	30,000	10,000	.....	.....	2,500,000
Missouri[2]	100,000.00	684,000.00	440,000.00	1,224,000.00	820,000	[3]	200,000	188,000	[7]	16,000	1,500,000	6,500,000
Montana	14,900.45	396,519.84	228,461.28	639,881.57	210,596	98,673	1,210	123,939	55,754	149,710	450,000	1,943,037
Nebraska	358,683.50	1,097,586.24	95,164.98	1,551,434.72	858,619	190,330	20,852	131,394	218,712	131,528	3,608,000	4,000,000
Nevada	179,685.15	342,250.48	105,428.10	627,363.73	442,034	38,426	29,330	46,338	59,185	12,050	500,000	275,000
New Hamp.	9,574.83	1,360,710.01	511,453.68	1,881,738.52	1,034,856	24,952	686,957	32,174	102,800	.....	2,262,003	1,000,000
New Jersey	[12]	6,320,000.00	9,000,000.00	15,320,000.00	5,500,000	30,000	9,210,000	200,000	230,000	150,000	7,200,000	[8]
New Mexico	39,739.12	839,053.56	330,473.32	1,209,266.00	602,784	183,462	201,180	22,700	15,900	183,240	1,800,000	375,000
New York	298,938.07	13,714,312.32	10,434,517.70	24,447,768.09	12,736,231	1,353,196	9,405,979	654,193	298,169	.....	34,775,667	.....
North Carolina[1]	254,731.89	1,010,442.76	452,170.22	1,717,344.87	1,158,015	[3]	144,632	199,838	82,945	131,915	1,750,000	5,000,000
North Dakota	250,000.00	233,128.47	500,000.00	983,128.47	578,741	[3]	[2]250,000	54,801	65,259	34,327	524,000	5,253,177
Ohio	694,921.36	4,603,771.72	5,414,645.28	10,713,338.36	8,236,769	326,196	1,562,359	436,559	151,455	.....	7,361,000	7,500,000
Oklahoma[2]	40,000.00	2,125,000.00	1,386,500.00	3,551,500.00	1,204,000	885,000	875,500	196,000	20,000	371,000	3,000,000	5,500,000
Oregon[9]	224,851.60	5,922,825.67	243,158.14	6,390,835.41	5,399,926	[3]	15,523	568,639	146,753	259,993	13,600,000	4,000,000
Pennsylvania	2,141,267.46	16,719,267.44	1,361,645.17	20,222,180.07	10,330,742	224,694	6,554,646	772,521	493,718	[11]845,859	25,000,000	8,000,000
Rhode Island	65,000.00	1,131,720.69	.....	1,196,720.69	725,810	85,545	280,044	66,707	7,500	31,114	1,485,000	650,000
South Carolina	246,024.08	80,406.25	268,343.57	594,773.90	458,195	56,172	309	58,815	12,594	8,688	756,060	1,840,000
South Dakota	94,247.41	319,225.91	117,195.84	530,669.16	396,448	[3]	.....	49,704	37,205	47,312	2,324,000	3,713,719
Tennessee[2]	82,857.91	794,464.09	90,888.52	968,210.52	481,000	100,000	225,811	80,700	80,700	.....	2,090,000	3,500,000
Texas	442,231.66	649,604.96	[3]3,000,000.00	4,091,836.62	3,974,275	[3]	.....	79,730	35,545	2,287	10,000,000	10,000,000
Utah	52,507.23	2,445,238.36	547,284.67	3,045,030.26	2,146,559	182,784	505,013	[3]	.....	210,674	1,500,000	2,500,000
Vermont	46,749.52	901,135.70	492,590.41	1,440,475.63	558,913	77,442	714,754	10,452	50,586	28,330	900,000	700,000
Virginia	146,906.64	2,262,192.18	980,836.01	3,389,934.83	1,832,745	123,442	1,120,198	109,037	42,581	161,933	4,941,260	1,750,000
Washington	616,687.30	2,894,969.96	415,355.41	3,927,012.67	3,289,557	350,000	.....	245,700	23,238	18,518	6,006,473	7,689,400
West Virginia	325,000.00	480,000.00	985,000.00	1,790,000.00	1,750,000	[3]	.....	40,000	[7]	.....	440,000	3,500,000
Wisconsin	204,962.44	3,062,638.89	6,689,434.07	9,957,035.40	1,551,684	1,348,918	1,854,523	100,496	101,414	.....	4,839,000	3,700,000
Wyoming	244,732.39	770,726.26	64,456.79	1,079,915.44	766,183	[3]	96,196	62,986	55,442	99,108	2,637,378	835,295
Total	11,730,056.98	106,861,052.85	81,701,583.77	200,292,693.70	115,929,306	12,689,626	52,962,894	8,715,676	3,456,149	6,539,047	211,244,760	189,163,237

[1] Fiscal year.
[2] Estimated by Highway Department.
[3] Included under Roads.
[4] Does not include San Francisco Co.
[5] Nine months only.
[6] Included under State.
[7] Included under Engineering.
[8] Included in State Funds.
[9] Eleven months only.
[10] Only 83 out of 105 counties shown.
[11] Includes $1,135,431.08 bonus for townships and $200,351.30 for purchase of turnpikes.
[12] Reimbursement for Federal-Aid work carried over to 1920.

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The voting of state highway bonds, however, was not confined to the year 1919. On February 16, 1920, the voters of Alabama ratified a state highway bond issue of $25,000,000 and in June the State of Oregon ratified a constitutional amendment increasing the maximum tax rate, thereby approving an additional bond issue of $10,000,000. The legislative assembly of Maryland during the regular session also provided for the issue of $3,000,000 of state highway bonds.

As a part of this movement eight other states made definite provisions for submitting to a vote of the electors at the general election in November, 1920, the issue of state highway bonds as follows:

Minnesota	$ 75,000,000
Missouri	60,000,000
West Virginia	50,000,000
Washington	30,000,000
Montana	15,000,000
Colorado	5,000,000
Idaho	2,000,000
New Mexico	2,000,000
Total	$239,000,000

The State of Florida will also vote on the question of amending its constitution so as to permit the legislature to issue highway bonds in an amount not to exceed 5 per cent. of the assessed valuation of the state. Kansas and Virginia will vote on removing constitutional barriers toward still greater state participation in road work.

Only two states defeated by a vote of the electors the question of issuing state highway bonds during the period November 1, 1918, to October 1, 1920. On May 6, 1919, the electors of the State of Oklahoma defeated a proposed bond issue for $50,000,000, and on November 4, 1919, the electors of the State of Texas defeated a bond issue for $75,000,000.

During 1919 the federal government also made liberal provisions for continuing the federal-aid road work in coöperation with the several state highway departments. The post-office appropriation act of February 28, 1919, carried an amendment to the original federal-aid road act of July 11, 1916, amplifying somewhat its terms and providing an additional appropriation; $50,000,000 was made immediately available and $75,000,000 available for each of the fiscal years 1920 and 1921, while the forest road appropriation was made available at the rate of $3,000,000 for each of the fiscal years 1919, 1920 and 1921. This amendment also provided for the transfer to the secretary of agriculture of all available war materials, equipment, and supplies suitable for use in the improvement of highways which were not needed by the War Department. All equipment and material so transferred was to be distributed on a value basis—the same as provided in the original federal-aid road act—among the highway departments of several states, to be used on roads constructed in whole or in part by federal aid.

The several state highway departments during 1919 supervised the construction of 18,300 miles and the maintenance of 320,446 miles of public highways. Of the total mileage constructed, 7,212 miles, or nearly 40 per cent., consisted of grading or earth road construction, while of the 320,446 miles maintained under the supervision of the state highway departments about 223,000 miles were earth or graded roads. The 7,212 miles of earth road construction is divided among a large number of states, while the earth mileage maintained is located mainly in the state of Iowa, New York, Kansas, Missouri, and Oklahoma. In the States of Iowa and New York, the state highway departments have fairly definite supervision or control over all rural road work within the state, whether construction or maintenance.

The public rural roads of the United States as determined in 1914 had a total length of 2,478,552 miles, of which 300,000 miles are now improved with some form of surfacing. A large portion of this mileage, however, is composed of sand-clay, gravel, or waterbound macadam, much of which is proving entirely inadequate for present-day traffic. That these facts are clearly recognized by the state highway departments is shown by the ever-increasing total expenditure for high-grade construction, and, while the work for the year 1919 shows a very large mileage of grading or earth road, most of this must be considered as preparatory to later surfacing.

Gasolene Prices Reduced a Cent a Gallon in East

DECREASE CREDITED TO BIG PRODUCTION

Reduction of 1 cent a gallon in the price of gasolene, announced by Standard Oil of New Jersey and its subsidiary, Standard Oil of Louisiana, is the first cut in gasolene prices in the Atlantic seaboard district this year. Other large marketing companies in this district are expected to follow the lead of the New Jersey company.

The present cut brings the price in New Jersey down to 28½ cents a gallon, which is still about 4 cents a gallon above the price on January 1 of this year. Oil men believe that any further cuts, should they occur, will still leave gasolene prices at a level well above the January 1 figure.

The advance in gasolene, and for that matter all the refined oil products, has occurred almost entirely during the present year. The last time prices were measureably advanced was during 1916, when the demand was quickened by the needs of the allied armies. During 1917, 1918 and 1919, however, there was practically no change in gasolene prices, leaders in the industry aiding in stabilizing prices during the time this country was at war.

An important factor in the present reduction, aside from the seasonal slackening in the demand, is that the production of light oil in this country has been increasing steadily and is now well above 725,000 barrels daily. This situation, coupled with increased freight rates, is causing independent refiners in the mid-continent district to offer gasolene at from 2 to 4 cents a gallon reduction. Conditions have also forced a decline in gasolene prices in England, where the price was recently reduced 12 cents a gallon.

There has been a rather general reduction in lubricating oil prices by large and small refiners, because of the slackening in business. Standard Oil of Indiana took the lead in this respect with a reduction of 5 cents a gallon. Lubricants, however, are still quoted well above prices at the beginning of the year.

In announcing a reduction in tank-wagon prices for gasolene, the Standard Oil Company (New Jersey) made the following statement:

"While there has been no material relief from any of the conditions which brought about the rise in the price of petroleum products, the Standard Oil Company (New Jersey) believes that the process of readjustment now under way in the business world must eventually contribute to lower cost of producing and refining oil. To date there has been no lowering of labor costs nor crude oil prices, nor recession in the demand for gasolene. Reductions which have already taken place in many of the principal items entering into the cost of living have, for the most part, not reached the ultimate consumer, but it is inevitable that, before long, lower prices will be brought about by new quotations now prevailing in primary markets. The Standard Oil Company (New Jersey) believes that this movement toward a restoration of what are popularly considered normal prices, should be aided by the oil industry."

Official government reports and figures of the oil authorities show that fuel production will break all records in 1920. The American Petroleum Institute predicts a domestic oil output of 450,000,000 barrels, plus a Mexican production of 125,000,000 barrels. This means a gain of 19 per cent. in the United States fields.

In addition to the gain in production much of the fuel formerly wasted can be saved. The Bureau of Mines has pointed out how 300,000,000 gallons of gasolene can be saved out of the 600,000,000 gallons which evaporates from oil on the way through pipe-lines to refineries. Local and national associations of owners are also encouraging users to keep their carbureters adjusted and engines overhauled so as to get fullest mileage from the gallon of fuel. Much fuel loss can be avoided in this way.

Refining companies have augmented the general production due to greater oil output by introducing better "cracking" processes to get gasolene from petroleum. As a result, in some fields the gasolene output from the same amount of oil is now doubled.

Heavy investments are being made by the oil companies, not only in new refining machinery, but also in exploration, drilling and research. Faced by a possible serious shortage early in the present year, the petroleum industry has achieved a degree of growth never before experienced within so short a period.

Straw Hat Materials by Motor Truck

During the recent tie-up of railroad equipment the R. H. Comey Company, maker of straw braid for men's and women's hats in Camden, New Jersey, employed its motor trucks in delivering direct from the factory to its customers in New York, 100 miles away. Each truck carried from 45 to 60 bales of from 100 to 250 pounds each, leaving the factory about 6 o'clock in the evening and arriving at its destination 10 hours later. The route lay through Trenton and Merchantville over the Lincoln Highway.

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Correspondence

General Correspondence, Criticisms, Suggestions, and Discussions Concerning Any Subject of Interest to Those Who Design, Manufacture, Sell or Use Commercial Motor Vehicles, Their Parts or Accessory Equipment, Are Solicited

Chassis Standardization

To the Editor:—The main difficulty the average body builder has to contend with when receiving his order for a body is the question of chassis measurements. If he is operating his plant in a small community away from the dealer, he is invariably compelled to wait for the delivery of the chassis to his shop before he can lay out his working plans and proceed accordingly. This causes long delays which are not only aggravating to the dealer and customer, but costly as well. A chassis lying idle represents an investment earning no interest—an economic loss which can not be regained.

In the larger centers, where the dealer is a progressive, he furnishes the builder with blue-prints showing exact measurements of his chassis and thus helps speed things up, as the builder can go ahead constructing his body, and have it ready for mounting when the chassis arrives. We must consider, however, that a great many bodies are built in the small centers, and the great confusion of measurements now existing among the different makes of trucks is a great source of annoyance and trouble to this type of body builder. He will not go ahead and construct his body, as he is afraid, on account of past experiences, that after he has done so and tries to mount it on the chassis, he will find that he will be forced to make costly and radical changes in the body in order to make it fit, and he consequently refuses to start his work until he has the chassis in his shop, where he knows that his measurements are correct.

Dealers and distributers all over the country have been setting up a great chorus of protest over the delays caused by the body builder's holdups, and rightly have they done so. Let us all join in this chorus, body builders as well, and direct our efforts on the right parties—in other words the manufacturer himself. The truck manufacturer is just as much interested in having his chassis go into active service, with the least possible delay, as is the dealer, and here is where he can help: Standardize.

As we now find it, there is a vast difference in the various makes of trucks in the way of body dimensions, such as wheelbases, controls, frame widths and lengths, driver's seats and rear wheel dimensions. The question of frame widths and rear wheel dimensions, speaking of the solid tire equipped chassis, are the main troubles of the body builders. Take, for example, the 2-ton chassis. Here we find frame widths varying from 32 to 36 inches and more, and in rear wheel dimensions from 34 to 40 inches. If a standard could be set, say of 34 inches on frame widths and 36 inches (which is the prevailing size now used) on rear wheels, there will be no room for doubt in the body builder's mind as to just how to proceed with his work. Length of frames back of driver's seat should also receive attention. Here we find great differences. Of course, we must have various lengths of chassis on account of the different classes of service, trucks are placed in, but by standardizing on, say, regular, long and extra long, this feature can be overcome. Driver's seats and controls should also be looked into. Of course, standards will have to be set for each model such as 1, 2, 3½ tons, etc., but in the end it will help to do away with present conditions and help facilitate the body builder to speed up the placing of the truck into productive sirvice,

HINDMAN BODY CORP.,
Charles A. Hindman, *Pres.*
New York, N. Y.

The Olympia Show

To the Editor: The Olympia commercial motor vehicle show now going on here is really the best show of its kind that I have ever seen, aside from the decorations and arrangements of exhibits which are fifteen years behind the times. The exhibits are good and comprehensive, and in some cases represent an advance in the art, but, generally speaking, conventional design rules.

The number of American chassis is noticeable, particularly of the glorified 1-ton (30 cwts.) and 2-ton models, which concessionaires are able to import on particularly favorable terms, (it is now customary to box two 2-ton chassis in 130 cubic feet, which, even at a dollar a foot, makes freights a very small item), and these chassis are offered at prices equivalent to, and in some cases lower than those of the British-made chassis of the same rating.

I was agreeably surprised to notice that the pneumatic tire is in greater evidence at the show than it was at the New York show last winter. I think this is due largely to the activities of the tire manufacturers, (principally American), but it certainly gives the exhibitor one and, I think, the only toothsome morsel that the gasolene man has to get his teeth into just now, as with the price of gasolene and the scarcity of substitutes the operation of the gasolene truck has got to be carefully planned and watched, in order to make it pay, and I think I can safely say to you that only organizations that have an efficient transport manager are "getting away with it" with any degree of success.

There are now five electric commercial motor vehicle manufacturers in this country, and the chances are that Clayton's steam wagon people will take it up, and some others (Leylands) on the gasolene side. They have been seriously flirting with it for some time and plans are already under way.

One feature of the show management here that everybody seems to applaud is the absence of free tickets of any kind or the advance sale of tickets for distribution. The Society of Motor Manufacturers and could be had except at the gate, and here Traders ruled very early that no tickets they have done away with the tickets, as you simply pay your money as you go through the turnstile. The net result of this is to wash out entirely the great mass of free ticket holders who crowd up the exhibits and prevent serious visitors from getting in as close a touch with salesmen as they want to. Besides, we know that everybody coming to our exhibit has to pay to get in and consequently must have some serious interest in being there.

MANAGING DIRECTOR.
London, Eng.

Horses vs. Motors

To the Editor.—While very much has been said upon this subject, the following comparison will illustrate in a striking way the difference between the two methods, and may present the matter in a different light. The average 2-horse team will haul 2 tons over the average road at a speed not greater than 3 miles per hour. Allowing one hour for the noon stop, and another hour for loading, unloading, resting on grades and miscellaneous delays, it is safe to say that the team will in a 10-hour day cover not more than 24 miles. But at least one hour in the early morning before starting on the trip, preferably longer, must be allowed for the horses to be fed, curried, harnessed and watered, also part of the noon hour must be devoted to care of the horses and at night after working hours, some little time must be devoted to feeding, watering, bedding and currying them. All this extra work must be done outside the 10 working hours, to say nothing of veterinary services. So much for the horse hauling method.

Now for the truck's side: No preliminary work in the morning is necessary, with the exception of a few moments' inspection every morning, desirable with any piece of machinery. Allow the same two hours lost time each day for the truck as allowed for the team, though the hour allowed for delays will be confined to loading and the greater part of this time eliminated. At the close of the first day the truck will be 136 miles from place of starting at the rate of 17 miles an hour. Remember, the team has made but 24 miles. At the close of 300 days the truck will be 40,800 miles from the starting point, although during the same time the team has covered only 7,200 miles. In other words, the truck has carried 2 tons 33,600 miles farther than the team in the same length of time. Keep this up for, say, five years, if the horses are able to work steadily 300 days per year for five years, and we find the truck 168,000 miles ahead of the team.

Counting feed, care and up-keep of team, harness and wagon, the cost of operation and maintenance is about the same for the

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truck as for the team, at least not much more, if as much. Hence there can be no argument concerning the efficiency of the two methods of hauling. The investment, of course, is much greater with the truck than with the team, but, as will be seen, the results do not compare favorably to the horse.

ACME MOTOR TRUCK CO.,
W. A. Carpenter, *Adv. Mgr.*
Cadillac, Mich.

British Plan Big Output

The British are going in for mass production of motor vehicles. Growing demand for the lower-priced American machines has forced the situation and already several firms have commenced producing a low-priced attractive car. Several others have plans to get in this line next year.

The war has had much to do with this. British officers and men observed the usefulness of the low-priced American cars in the morasses of Flanders and smashed roads of northern France, and they have returned clamoring for these. One sees hundreds of them throughout Great Britain. They are used by thousands of business firms.

Leaders in the War Department claim that the low-priced American car was an outstanding feature of the transport department in every field of hostilities during the war and the treasury coincides with this view.

A recent dispatch from Asiatic Turkey to the British War Office read as follows: "Our troops are accompanied with three lorries and ten ——."

There are no derisive remarks accompanying the "Tin Lizzie" on British roads. Light weight American cars are peculiarly adapted to British highways and byways with their small lanes, steep hills and dangerous corners. Furthermore, the contention of British manufacturers that their cars stand up better owing to the hand work put into their makeup is not borne out for the reason that, owing to the excellent roads in Great Britain, the wear and tear on low-priced American cars is not great.

Manufacturers of mass production as well as American firms have found their chief competition in foot and motor bicycles. There are well over 20,000,000 foot bicycles in use in Great Britain to-day and in this field the British manufacturers have little or no competition. High prices for gasolene and railroad transportation have increased the use of the cycle and it is used in every walk of life by young and old. Even in the crowded traffic of London one sees thousands of persons going to work on bicycles, many riding long distances from the suburbs.

Evidently a change of great importance is at hand in the British automobile industry, which according to the trade means that many leading firms will gradually disappear from the high-priced car manufacturing field and give entire attention to mass production and low-priced machines.

One or two leading manufacturers of high-priced machines say a large part of their output is going into export with the United States increasing its takings of machines like the Rolls Royce.

Emergency Long-Distance Motor Trucking

2,300-Mile Trip, Made at Cost of $2,888.85, Keeps Factory Production at Normal Level

INDUSTRY in the United States has outgrown the whole system of rail transportation. It will be a year before even the existing equipment can be restored to efficiency and years longer before the expansion of facilities necessary for the rails to "catch up" to the demands of business can be accomplished. Meanwhile, business everywhere, with its customary resourcefulness, has sought relief elsewhere. Cut off at the round-house, it has turned to a garage. There, in the motor truck, it has found succor.

Intercity shipping by truck, which under ordinary circumstances is included in the short-haul category, was commonplace even before the railroads began to falter under their burden—as ordinary, almost, as the motorization of hauling and delivery within the city. When the already overworked railroads were hit by the switchmen's strike, shipping for a time received what amounted to a near knock-out blow. It was here that the motor truck stepped in, not only in a legitimate way on short hauls, but, as the demand grew, on hauls that grew longer and longer, until the 1,000-mile mark had been passed in numerous instances. Now, the experienced truck maker knows that under ordinary conditions there is no economy in truck hauls of such distances. Hence he could not recommend them except in cases of great urgency.

However, many an emergency did arise which sent motor trucks over the roads on long trips. True, the cost of these ventures was high, but shipper and consignee alike considered the expenditure an ultimate economy after estimating the financial loss through delayed shipments and loss of business that would have been entailed through waiting for shipments by rail. Weighing conditions and consequences, they considered emergency long hauls by motor justified, but only emergency long hauls.

In order to keep its factory running, the Bradley Knitting Mill, Delavan, Wisconsin, had to have yarn—freight embargoes notwithstanding—from the Attleboro, Massachusetts, plant of R. Wolfenden & Sons, commission dyers and bleachers. A 5-ton White truck was called into service. With a cargo of worsted yarns valued at nearly $35,000 the truck, operated by the Globe Coal Company, Woonsocket, Rhode Island, set out on a scheduled round trip of 2,300 miles. The contract price for the trip was $2,888.85 or approximately $2.40 per mile one way—$1.20 per mile for the entire route. Normally, the yarn would have been shipped by freight. But here was an emergency to be met promptly. Had the truck not been thrown into the breach, curtailment of production at the Bradley Knitting Mill would have been necessitated. The extra expense of shipping the cargo by truck was more than justified, officials felt, by the urgency of their need.

Similar situations, similarly met in other parts of the country, raise the question whether the use of trucks, though involving increased expense, was not an ultimate economy. Suppose delayed shipments of raw material had been allowed to force suspension of production, with a consequent loss of time for employees! Very shortly lost time and decreased production would have proved more costly than the emergency use of trucks for the long hauling of needed raw materials. Less tangible, but none the less real, was the danger of weakened prestige by failure promptly to fill certain orders, a danger that proved to be the closing factor in the decision of certain firms to use trucks on emergency long hauls. Although impossible to compute in dollars and cents, prestige, it was realized, was worth protecting even at some expense.

When the Troy Foundry Company of Troy, New York, found that the railroad strike was holding up molding machines needed for an addition to the plant, officials of the Consolidated Trucking Company were asked to send one of their trucks to Milwaukee to bring back a load of the machines. Delay could not be countenanced, as a large order from an electric company was waiting to be filled. C. H. Watson, who looks after the trucks, selected a 3-ton vehicle for the trip and decided to drive it himself. Full loads were carried both ways. Taking on a 3-ton load of castings consigned to the Wright Cutter Company of Chicago, Watson made the 1,300-mile trip in 8 days. Eight hours of additional driving took him to Milwaukee, where he piled on ten of the bulky molding machines and started back east—covering, on the return leg of the jaunt, 2,700 miles.

But emergency hauling over long distances, or transporting perishable goods quickly when the demand is urgent, are merely minor phases of truck utility. The point to be kept clearly in mind is that the truck's great worth is in transportation work under normal conditions.

Mid-West Fuel Prices

An official of Standard Oil Company of Indiana says: "We have not yet considered the question of reducing gasolene prices, because our territory has been on a lower level than the rest of the country and conditions with us have not yet called for any reduction. Our last advance of 1 cent, making the Chicago tank-wagon price 27 cents, merely took care of increased transportation charges and still left us relatively low. Chicago is actually 4 cents under big eastern cities, and, after the Standard Oil of New Jersey reduction of 1 cent just announced, we are still more than 1 cent below normal parity, after allowing for all shipping expenses. What we shall do, especially in regard to the price of crude, will depend upon general conditions."

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Everybody and Charley's Aunt

keeps away from a sagging-price market. One cut suggests another. This causes them to feel that it is best to wait to find out where the bottom is.

Under such conditions the seller cannot attract. A firm or bull market is what makes the public buy. Why? Because they have confidence.

Soon we will have a new President and get this Peace agitation out of our systems. Money will get cheaper and, with prices steadied up, the public will once more gain confidence to buy.

There will be no room then for the money-thirsty profiteer—due to the excess profit tax—which will be repealed.

In the future those who sell at a reasonable gain will be the ones to do the business.

The house of Smith always stands for live and let live.

SMITH WHEEL
SYRACUSE, N.Y. U.S.A.

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$235 Rail Shipment Costs But $100 by Truck

By J. F. JOHNSON,

Manager, Werner Transfer Company, Chicago

HORSES are out of date in the moving business—they can't go fast enough or far enough. When we started in business in 1914, we had one horse-drawn moving van. We soon found that horses were impractical for anything but a neighborhood business, because of their slow rate of travel. Sticking to horses and wagons meant operating on a small scale, with no chance to grow.

In September, 1916, we bought a 3½-ton motor truck. It did such good service that a few months later we bought a 2-ton, and added another 2-tonner of the same make in 1917. These 2-tonners are confined exclusively to piano moving in Chicago and its suburbs. The larger truck is used for moving household goods.

Our 3½-ton truck immediately brought us increased business by giving us a much greater range than was possible with horses. We went after long-distance hauling of household goods, and have extended our business to cover four states. Among the cities to which we have run are Dalton, Joliet, Geneva, DeKalb, Dwight and Rockford, Illinois; Milwaukee and Kenosha, Wisconsin; Gary, LaPorte, Fort Wayne, Rensselaer and Terre Haute, Indiana; and Battle Creek, Michigan. We do not hesitate to haul anywhere within 200 miles.

With freight conditions as they are today, moving household goods by railroad is very expensive and uncertain. Less-carload shipments for short hauls are not wanted by the railroads; and when accepted they are seldom handled promptly. Everything must be boxed or crated, hauled to the freight depot at this end, and hauled away when it reaches its destination. And there is always a certain amount of breakage.

With our motorized long-distance service, our truck simply backs up to the door, takes on the contents of the house or apartment, and a little later delivers the load at the door of the new home. Often we get there almost as quickly as the owner can make the trip by train. This method of transportation saves the cost of crating and uncrating and does away with the inconvenience of delays.

Many of the loads hauled by us contain expensive furniture that would be hard to duplicate if broken. Our men handle only furniture, and are trained to give it every possible care, so as to reduce the chance of breakage to the minimum. Freight handlers, on the contrary, may be loading pig iron one minute and easily damaged household goods the next. That's why there is always more or less breakage in household goods shipped by freight.

For a definite comparison of the cost of freight and truck transportation, let us suppose the customer is moving from Chicago to Joliet, Illinois, a distance of 43 miles. He has furniture for an average 5-room apartment, including a piano. The cost of shipping his goods to Joliet by freight would be as follows:

Crating and cartage to Chicago freight depot	$200.00
Freight from Chicago to Joliet	15.00
Cartage from Joliet freight depot to new home	20.00
Total	$235.00

He may do the uncrating himself, or the cartage people might do it for the lumber.

Using our truck, we could do the whole job for a flat price of $100 for loading, hauling and unloading. There would be no expense for crating, and yet the danger of breakage would be almost negligible. We would load our truck in the evening, make an early start the next morning and have the load in Joliet by noon or a little later. L. c. l. freight between Chicago and Joliet takes 6 or 7 days under present conditions. The saving to the customer is $135 in cash, and 5 or 6 days in time. There is also a saving in breakage which can't be estimated, and the satisfaction and convenience of having his goods delivered promptly and in good condition. On any of these long hauls the condition is the same—the truck gives far better service at about half the cost of freight transportation.

Our operating costs have been kept at a reasonable figure, although we have experienced several accidents the repairs on which were not entirely covered by insurance. In practically every case the accident was either partially or wholly due to careless driving. Over and above these items are some others which cover several ordinary repair jobs. The total amount expended for repairs, during the period covered by the accompanying costs, has been proportioned and credited to both "Repairs Due to Accident Not Covered by Insurance" and "Maintenance and Repair." Our operating costs are $26.76 a day, or 67 cents a mile. This includes $15.82 a day for driver and helper, as it always takes two men to handle a load of household goods. The Joliet trip, for example, would cost us $54.82, because it would take two working days and we should probably have to come back empty. But as we get $100 for the job, we should have a profit of $45.18 on the trip, or $22.59 a day.

During the year ended July 1, 1920, our 3½-ton truck—a Service—worked 240 days and traveled 9,600 miles, or an average of 40 miles per day. This average is kept down by the fact that the truck makes many short hauls in the city, and that considerable time is spent in loading and unloading. But this record shows a very steady performance by a truck four years old.

ANALYSIS OF THE PERFORMANCE AND OPERATING COST OF A 3½-TON MOTOR TRUCK IN THE SERVICE OF THE WERNER TRANSFER COMPANY, CHICAGO, FOR THE YEAR ENDED JULY 8, 1920.

Performance.

Days in operation during period	240
Miles traveled during period	9,600
Gallons of fuel used during period	1,477
Gallons of oil used during period	74
Average number of miles traveled daily	40
Average number of miles traveled per gallon of fuel	6.5
Average number of miles traveled per gallon of oil	130.0

Cost.

	For the Period.	Per Mile.
Fixed Expense:		
Interest on $3,475.00 (chassis $3,000.00, body $400.00, painting $75.00) @ 6%	$ 125.10	
Taxes	20.00	
License	22.50	
Garage	300.00	
Insurance	82 30	
Driver's and helper's wages @ $73.00 per week	3,796.00	
Total fixed expense	$4.345.90	45.27c
Variable Expense:		
Depreciation, based on $3.163.69 ($3.475.00 less $311.31 for tires) over estimated 48,000-mile life.	$ 633.59	6.59c
Maintenance and repair estimated at	300.00	3.13
Repair due to accidents (not covered by insurance)	475.00	4.95
Tires, based on $311.31 over estimated 10,000-mile life	298.56	3.11
Fuel, 1,477 gallons gasolene @ 22.5c	332.33	3.46
Oil, 74 gallons @ 50c	37.00	.39
Total variable expense	$2.076.48	21.63c
Total cost	6,422.38	66.90c

Cost per day, 40 miles @ 21.63c. $26.76.

Ceylon's Motor Show

The time for holding the Ceylon Motor Show is now set for January 22 to 29, 1921. Manufacturers desiring to exhibit should see that their shipments go forward in sufficient time to arrive in Colombo not later than January 1. Intending exhibitors are required to have duly accredited agents in Ceylon.

The charge for space will be about 36 cents per square foot; this covers rental and lighting only. It is essential, in case motor vehicles are sent for exhibition, that they be right-hand drive. Care should be taken that chassis and body are in good condition and of good appearance.

The British motor vehicle, accessory and tire industries are energetically engaged in making the show a success from the British industries' standpoint. Practically every British make of motor car and truck will be shown.

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Big Tank for Milk Truck Eliminates 105 Milk Cans

3-TON TRUCK DOES WORK OF 5-TONNER

When William J. Merz, whose trucks haul milk for the Nestles Food Company at Marysville, Ohio, purchased an all-copper, 1,000-gallon tank for his new 3-ton White truck last spring, it didn't take him long to discover that, because of the tank, all cans were eliminated; with the cans gone, can-handling was unnecessary; with can-handling unnecessary, so were the services of two men in handling them; because cans were eliminated, a 3-ton truck could do the work formerly done by a 5-ton truck; because the 3-ton truck could be operated more cheaply than a 5-ton truck, money was saved. But these are only a few of the advantages resulting from the installation of Mr. Merz' new tank truck.

In the first place, the Nestles Food plant at Marysville is one of 52 main plants in milk-producing centers throughout the country. Long ago the Nestles Food Company discovered that by establishing subplants at some distance from the main plant, where milk brought in from the farms could be condensed before transportation to the main plant for sterilizing, labeling, standardizing and finally shipping, trucking expenses could be considerably reduced. For in the process of condensation, the bulk of the milk is reduced by two-thirds, thus cutting the hauling expense proportionately.

Sub-plants are located at Ridgeway, Sunbury, West Mansfield and Bellefontaine, 60, 65, 40 and 60 miles round trip from Marysville, respectively. Route trucks, a score or more of them, daily scour the country for 10 miles around these respective stations collecting milk from the farms and delivering it at the stations, there to be condensed.

Daily at 10 P. M. the truck starts for Ridgeway. There the milk is pumped into the 1,000-gallon tank and the return journey starts. Contrast this simple process with the old system. Only a 5-ton truck with a huge body was strong and spacious enough to hold 105 cans, each weighing 30 to 35 pounds, and containing 88 pounds of milk. Then several strong men had to wrestle the cans around the platform and on to the truck. Daily washing and cleaning of cans entailed additional irksome labor. How much more simple and sanitary the present method. With 105 cans each weighing 30 to 35 pounds, eliminated, approximately 3,675 pounds of dead weight is eliminated in a single item. The compact copper tank, seamless, and spotless as a mirror, weighs but 800 pounds.

Arrived at Ridgeway, the driver has merely to pump the milk into the tank and be on his way. By 6 A. M. the milk has been pumped into the storage tanks at the main plant in Marysville. Two hours later the tank has been washed and another driver is on the road with the truck, this time headed for Sunbury. He returns with a new load of milk about 4 P. M. Thus the truck is on the road 16 hours a day. Since its purchase it has done approximately 11,000 miles at the rate of 128 miles a day.

"And another advantage of the tank," observed Mr. Merz, "is refrigeration qualities, you might say. With the cans milk used to heat on the road during certain seasons. Now we can transport 1,000 gallons 30 or 40 miles and the temperature of the milk from the time it is pumped into the tank until it is pumped out again will not vary two degrees. Holding your hand on the pump when the milk is going through is as cold work as holding a cake of ice."

Motor Vehicles in Canada

Motor vehicle registrations in Canada in 1919 aggregated 341,396, practically five times the number in 1914. Prince Edward Island made the largest proportionate growth in registrations (3,019 per cent.), whereas Ontario showed the greatest actual increase (113,080 more registrations), as between these two years. The number of vehicles in Prince Edward Island in 1919 was 967, in Nova Scotia 10,290, in New Brunswick 8,306, in Quebec 33,547, in Ontario 144,804, in Manitoba 30,118, in Saskatchewan 56,855, in Alberta 34,000, in British Columbia 22,420, and in Yukon Territory 89.

Customs statistics as regards Canada's imports of passenger and freight motor vehicles for the past four fiscal years show:

Years and countries from which imported.	Motor Trucks. Number.	Motor Trucks. Value.	Passenger Cars. Number.	Passenger Cars. Value.
1917.				
United Kingdom	.....	.....	8	$ 29,571
United States	527	$ 423,824	12,028	7,950,806
Other countries	.....	.....	1	800
Total	327	$ 423,824	12,037	$ 7,981,177
1918.				
United Kingdom	.....	.....	.....	.....
United States	964	1,275,179	16,318	11,317,245
Other countries	.....	.....	.....	.....
Total	964	$1,275,179	16,318	$11,317,245
1919.				
United Kingdom	3	11,330	.....	.....
United States	1,741	2,263,418	6,473	5,326,510
Other countries	.....	.....	.....	.....
Total	1,744	$2,274,748	6,473	$ 5,326,510
1920.				
United Kingdom	7	19,945	3	8,134
United States	2,267	3,811,139	10,802	11,196,327
Other countries	.....	.....	.....	.....
Total	2,274	$3,831,084	10,805	$11,204,461

Prior to 1917 available official statistics do not separate motor vehicles by classes. In the fiscal year 1916 "automobiles and motor vehicles of all kinds" were imported into Canada to the value of $5,089,329, of which the United Kingdom supplied $23,502 and the United States $5,065,827. In the fiscal year 1915 the imports were valued at $4,888,704, of which the United Kingdom supplied $252,898, the United States $4,591,182, and other countries $44,624.

Germans Planning to Export

That the German motor vehicle industry is in process of reorganization for the purpose of competing strenuously in foreign markets with American manufacturers, is shown by the increase of capital of all the leading works. According to a statement issued by the National Foreign Trade Council, the capital invested in the German industry has increased since 1915 by approximately 250,000,000 marks.

Though this extraordinary increase of capital stock was partly necessitated by the depreciation of the German mark, it was principally intended to be a financial armament for protection against the invasion of the American product.

While the German industry does not entertain much hope of fighting such competition successfully, it is improbable that American manufacturers would be able to dispose of vehicles on a large scale, in view of the fact that the German market can absorb at the most 35,000 machines per year.

The German industry is organized largely for export; and the present policy of concentration of effort plainly shows that Germany is aiming at increasing her export sales. The tendency is to favor quantity production for home demands, and to adopt the slogan of "Quality First" for export trade in the belief that high-grade German vehicles are superior to those produced in any foreign country.

CLASSIFIED ADVERTISING

FOR SALE—A Milwaukee Truck Manufacturing Company making good trucks desires to sell its business in whole, or in part, at a bargain. Write J. C. Mueller, 956 Bartlett Ave., Milwaukee.

WANTED—A competent and experienced man to manage a truck manufacturing concern. Should have some means and financial backers. Write J. C. Mueller, 956 Bartlett Ave., Milwaukee.

FOR SALE—Pressed steel frames—Ross Steering Gears — Radiators — Springs—Fenders and other new materials for 1½-ton and 2 ton trucks. Martin Rocking Fifth Wheels, Beams and other new materials for 2 and 3 ton Trailers. Waltham Motors Corp., 401 N. Hoyne Ave., Chicago, Ill.

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PIERCE-ARROW
2-ton, 3½-ton, 5-ton Dual Valve Trucks Mean Added Power

**Increased valve area—
larger intake and quicker exhaust—
and complete gasoline consumption
assure full power delivered by
each explosion of gas.**

THE result not only is power equal to any demand, but many signal economies: time-saving, easy handling, minimum strain, labor saving and surprisingly small gasoline consumption.

All of these savings reduce cost of operation and increase profits to the owner.

Please mention "Power Wagon" when writing to advertisers.

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PIERCE-ARROW has been noted always for freedom from breakdowns and minimum repair expense. The accessibility of every part materially cuts down labor cost of necessary repairs. Keeping trucks running is an essential of successful operation and a major Pierce-Arrow objective.

Pierce Arrow

48 of the FIRST FIFTY trucks still running after 9 years' service.

Delivers more work in a given time.

Loses less time on the job and off the job.

Costs less to operate and less to maintain.

Lasts longer, depreciates less, commands a higher resale price.

THE PIERCE-ARROW MOTOR CAR COMPANY, BUFFALO, N. Y.

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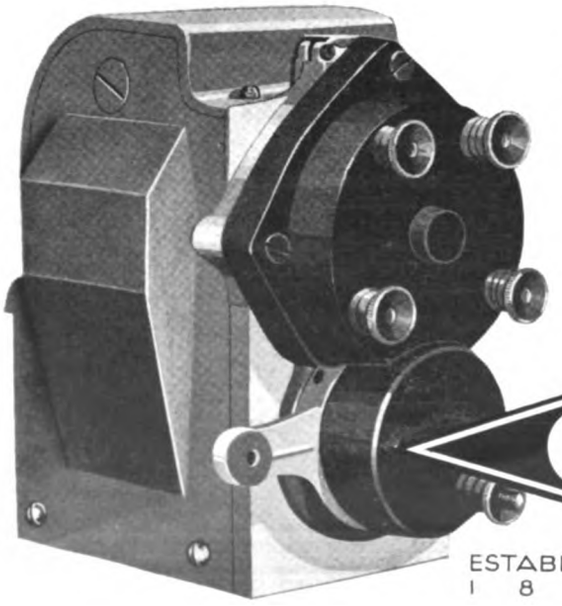
Ready for a Day's Work Every Day

Part of a Fleet of 32 Mack Trucks Owned by the U. S. Bureau of Mines

All SPLITDORF Equipped

It is a noticeable thing that Splitdorf equipped trucks are faithful to the job. See them lined up for the day's work—no gaps, no deserters, no laggards, no idlers eating up your profits or disappointing customers. You learn to bank on Splitdorf Ignition just as you do on your most faithful drivers. It's a real comfort to know that you have Splitdorf dependability backed by Splitdorf Service—14 direct factory branches and more than 300 service stations.



Splitdorf Electrical Co.

NEWARK, N. J.

World's Largest Makers of Ignition Equipment

Magnetos—Spark Plugs—Peened Piston Rings, etc., etc.

TRADE SPLITDORF MARK

ESTABLISHED 1858

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EFFICIENCY-RELIABILITY-DURABILITY
GARY
SIMPLICITY-TRUCKS-ECONOMY

MAKE COMPARISONS

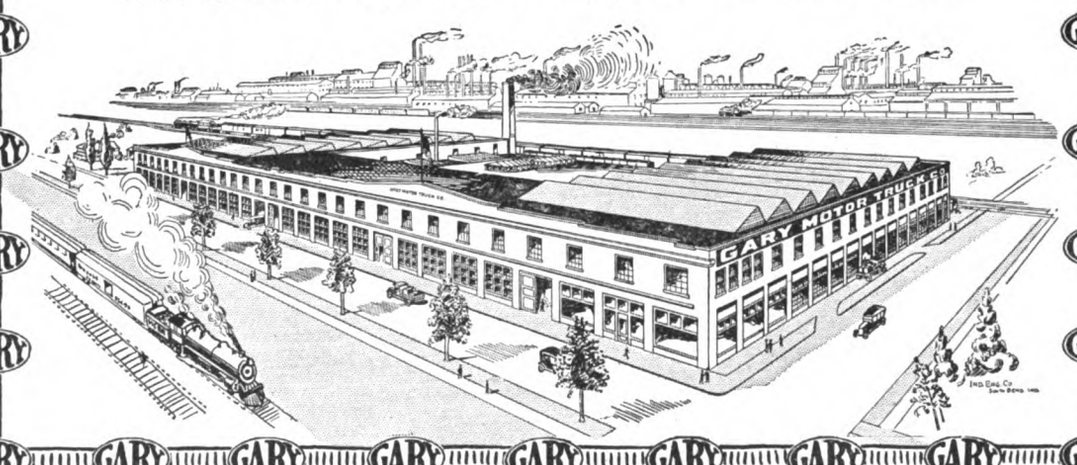
Turn over to the "Motor Truck Specifications" in Power Wagon and see for yourself how much larger and better Gary trucks are than other trucks of the same rated capacity—and after you have learned what Gary users know, please note that Gary prices are **below the average** of over forty different makes of heavy duty worm drive trucks.

We have some open territory.
We can make mmediate deliveries.
Our proposition to dealers is the most liberal to be had anywhere.

Write or wire today

The Gary Motor Truck Co., 2300-2316 W. 9th Ave. GARY, INDIANA

1, 1½, 2½, 3½ and 5 ton Special Farm Wa on, Special Motor Bus, Special Tractors



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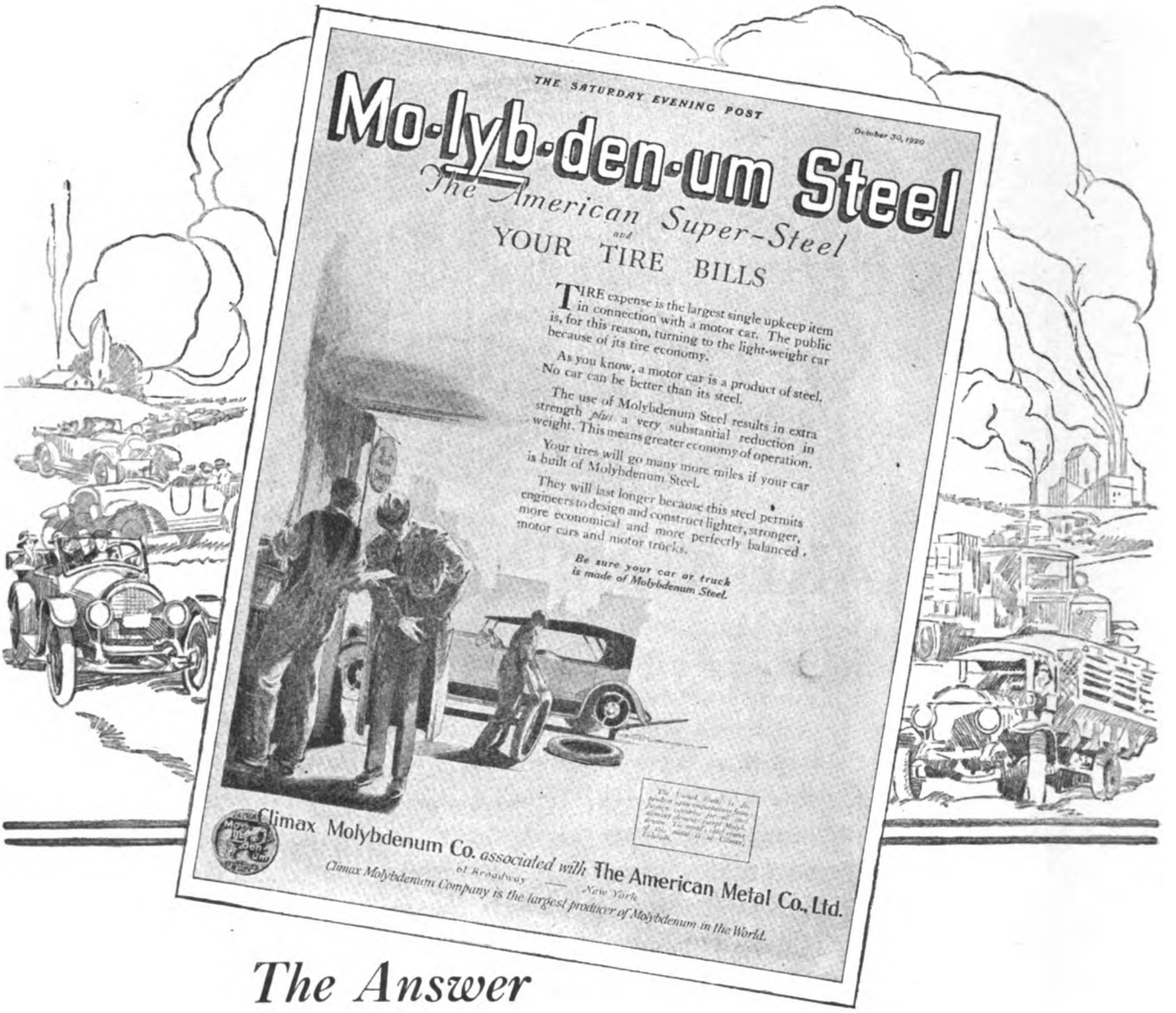
THE SATURDAY EVENING POST
October 30, 1920
Mo-lyb-den-um Steel
The American Super-Steel
and
YOUR TIRE BILLS
TIRE expense is the largest single upkeep item in connection with a motor car. The public is, for this reason, turning to the light-weight car because of its tire economy.
As you know, a motor car is a product of steel. No car can be better than its steel.
The use of Molybdenum Steel results in extra strength plus a very substantial reduction in weight. This means greater economy of operation.
Your tires will go many more miles if your car is built of Molybdenum Steel.
They will last longer because this steel permits engineers to design and construct lighter, stronger, more economical and more perfectly balanced motor cars and motor trucks.
Be sure your car or truck is made of Molybdenum Steel.
Climax Molybdenum Co. associated with The American Metal Co. Ltd.
61 Broadway New York
Climax Molybdenum Company is the largest producer of Molybdenum in the World.

The Answer To a Universal Demand

The new efficiency of Molybdenum Steels, in both production and service, is treated fully and authoritatively in our book, "Molybdenum Commercial Steels." Copies will be sent on request.

With the minds of motor car and truck owners everywhere centered on lower operating costs, the Climax national advertising campaign on Molybdenum Steels is spreading a message of unusual timeliness.

Its keynote is reduced upkeep through lighter weight, without sacrifice of strength or durability—a policy brought within easy reach of automotive manufacturers by Molybdenum Steels.

The United States is dependent upon importations from foreign countries for all steel alloying elements except Molybdenum. The world's chief source of this metal is at Climax, Colorado.

CLIMAX Mo-lyb-den-um The Commercial Alloy

Climax Molybdenum Co. *Associated with* **The American Metal Co., Ltd.**

61 Broadway, New York

Climax Molybdenum Company Is the Largest Producer of Molybdenum in the World

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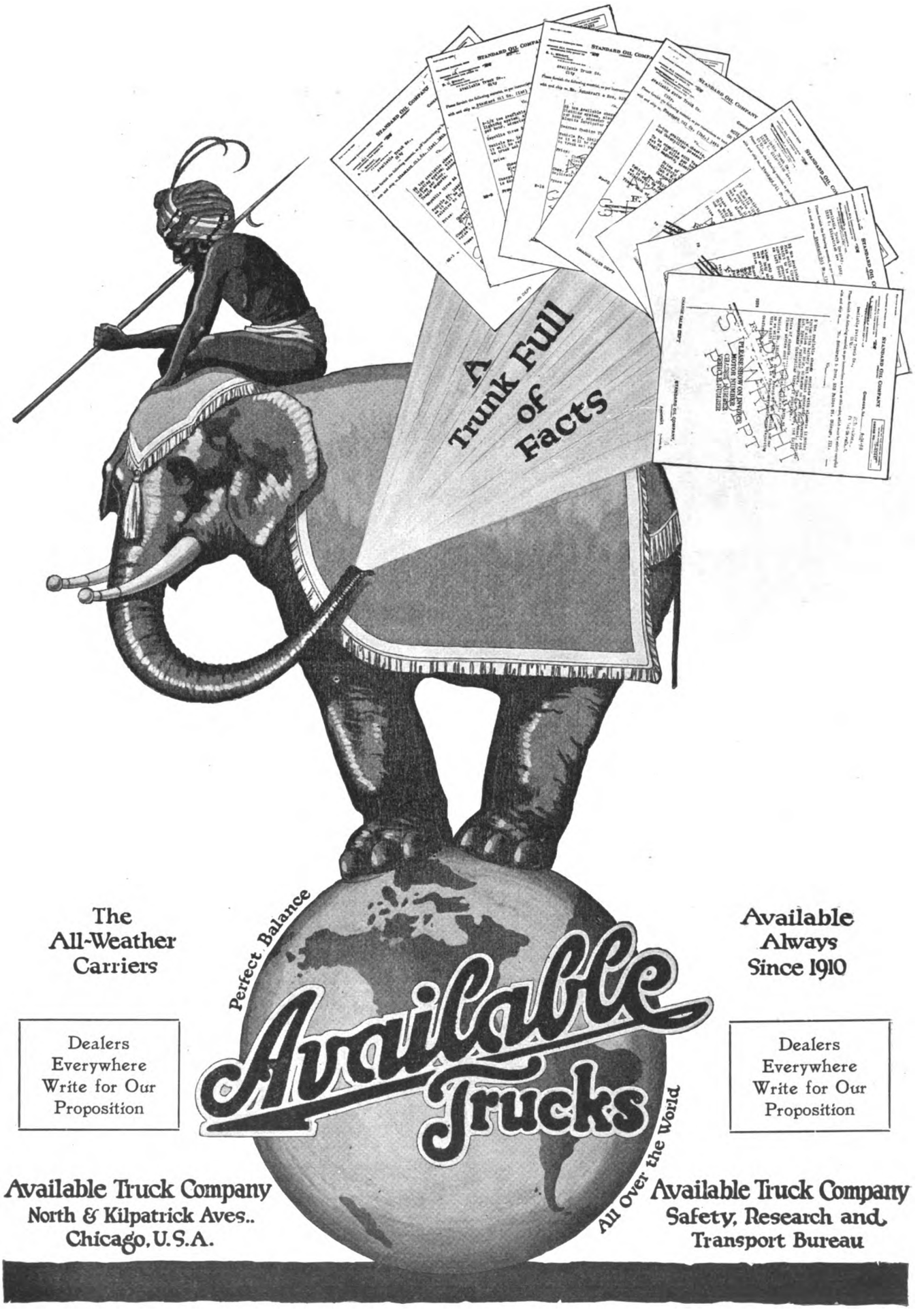

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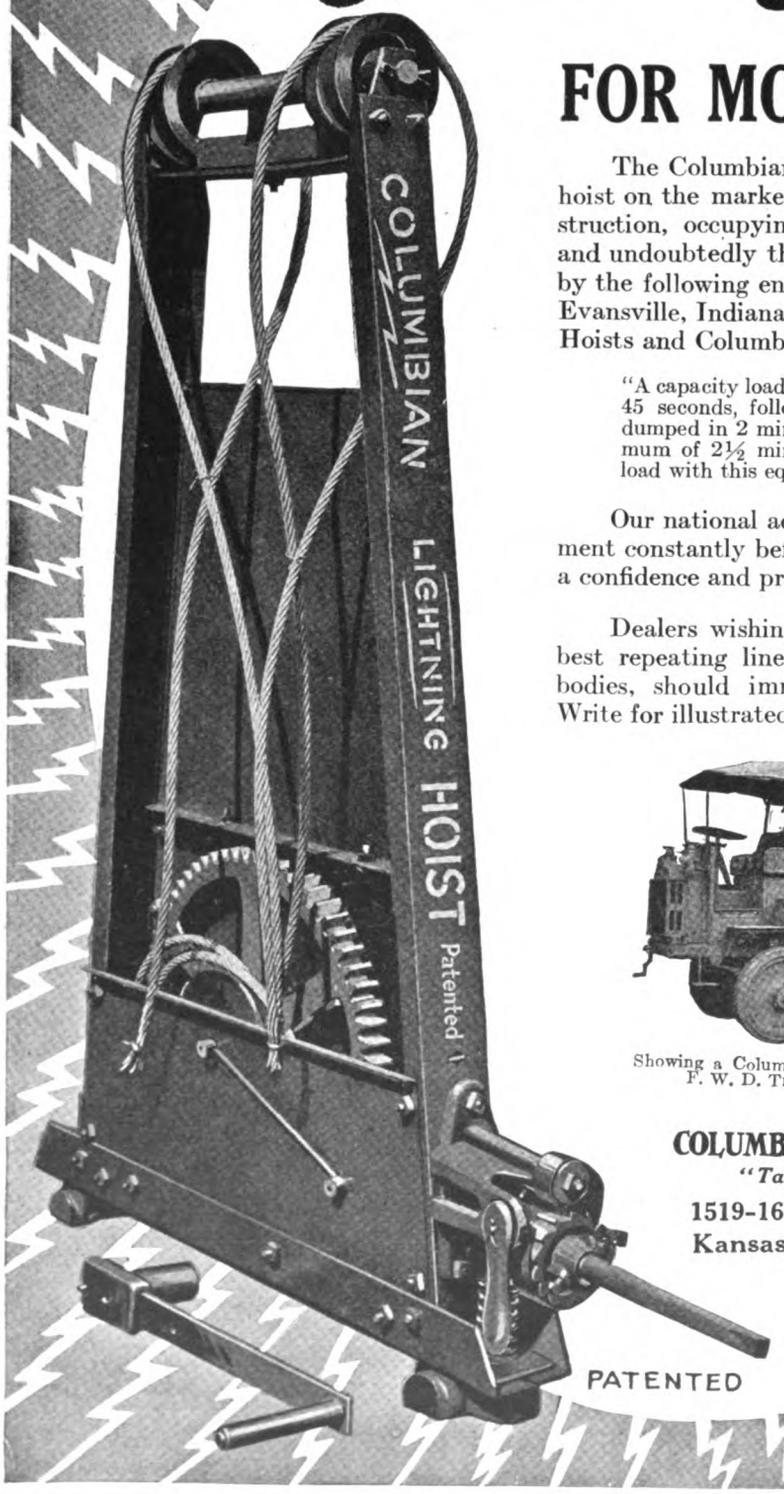
Columbian Lightning Hoist



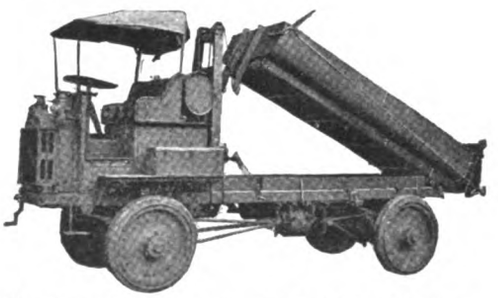
FOR MOTOR TRUCKS

The Columbian is the most rapid operating hand hoist on the market. It is the most compact in construction, occupying but 9″ of chassis frame space and undoubtedly the easiest of operation as evidenced by the following engineer's report from Graham Bros., Evansville, Indiana, who have adopted the Columbian Hoists and Columbian Electric Welded Steel Bodies

"A capacity load of gravel was dumped in 1 minute, 45 seconds, followed by a capacity load of sand dumped in 2 minutes. It is safe to place a maximum of 2½ minutes for dumping any ordinary load with this equipment.

Our national advertising keeps Columbian equipment constantly before the buying public and creates a confidence and preference that makes selling easy.

Dealers wishing to handle the best selling and best repeating line of hand hoists and steel dump bodies, should immediately communicate with us. Write for illustrated folder No. **89.**



Showing a Columbian Dumping Unit Mounted on a F. W. D. Truck in State Highway Service

COLUMBIAN STEEL TANK CO.
"Tanks for the World"
1519-1625 W. 12th St.
Kansas City, Mo.

PATENTED

No. 9

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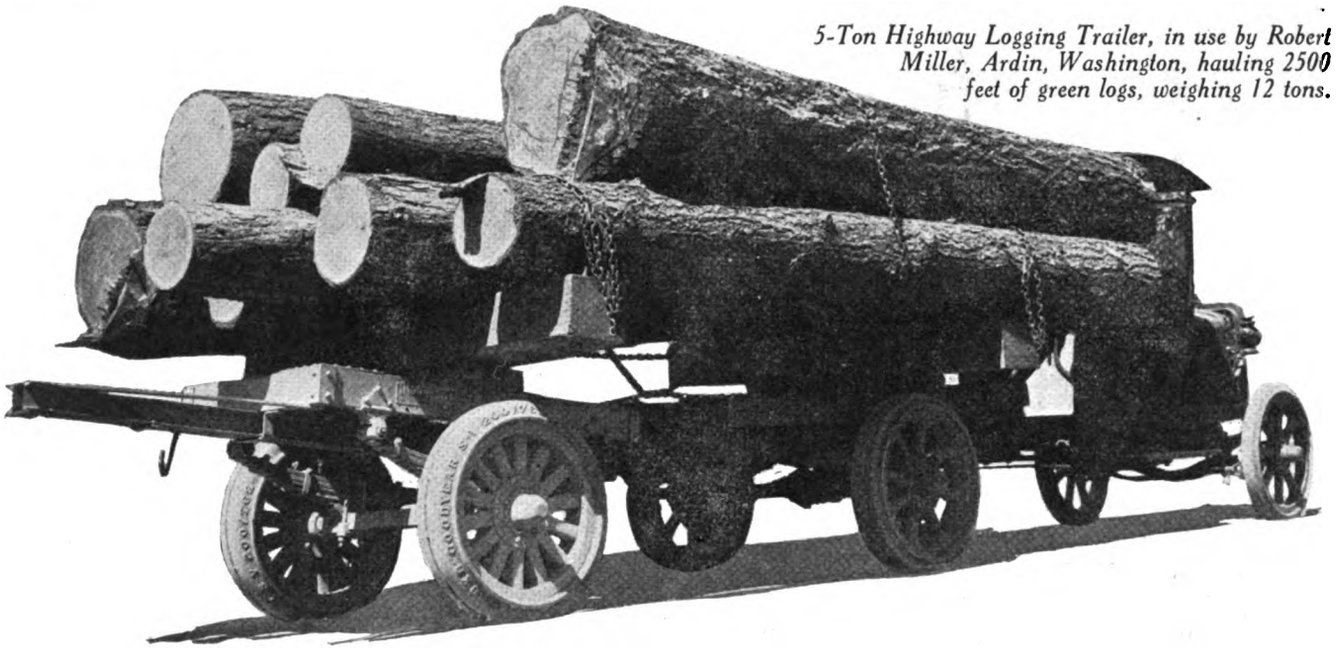
HIGHWAY TRAILER

EDGERTON WISCONSIN

The Largest Trailer Plant in the World



5-Ton Highway Logging Trailer, in use by Robert Miller, Ardin, Washington, hauling 2500 feet of green logs, weighing 12 tons.

This a Real Opportunity for Dealers

These are a Few Large Operators of Highway Trailers

The U. S. Army *The U. S. Navy*

Baldwin Locomotive Works
Philadelphia
American Telephone & Telegraph Co.
The Cadillac Motor Car Co.
Detroit
The National Tea Company
"Piggly Wiggly" Chain Stores,
Headquarters, Chicago
The Timroth Motor Express Co.
Chicago
Southwestern Telephone & Telegraph Co.
St. Louis, Mo.
Towars Creamery Co.
Detroit
Chicago Telephone Company
The T. M. E. R. & L. Interurban Express Co.
Milwaukee, Minn.
The Fisher Body Co.
Detroit
The Rex Manufacturing Co.
Connersville, Ind.
The Public Service Company
Chicago
The Timken-Detroit Axle Co.
Detroit
Lindeteves-Stokvis Company
Amsterdam, Holland
Dutch East Indies:
Semarang-Soerabaya-Batavia
Tegal-Djokjakorta-Bandoeng
Medan-Makassar
T. E. M. A.
Buenos Aires-Shanghai

More and more truck operators are filling their requirements for greater hauling capacity by adding Highway Trailers, instead of extra trucks.

It is a definite policy with many great users of truck transportation to employ trailers up to the full effective limit of their draw-bar pull before adding more trucks.

That policy is extending rapidly.

The time is practically at hand, when every truck sale will mean the sale of one or more trailers. Today, every truck not trailer-equipped, is a prospect for Highway Trailers.

Many bankers now endorse the utility and earning power of the trailer by stipulating the use of trailers as a condition of financing truck sales.

The superior quality of Highway Trailers is attested by the fact that it was the only trailer accepted without design change, by the U. S. Government which operates more than $1,000,000 worth.

You can sell the advantages that made Highway Trailers the choice of so many transportation experts. It is your opportunity to build a big, profitable business.

Highway Trailers of All Types
Cost $200 to $600 Less Than Average Trailers

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Maintain Daylight Schedule Throughout the Night

THE element of danger in night driving is too great to warrant "daylight speed" unless the road ahead is clearly illuminated.

Electric light, furnished by a storage battery especially built to withstand the vibration of truck service, is consequently more than a mere convenience—it is insurance against accidents.

The Exide Battery for Gas Trucks is making good on solid-tired trucks where ordinary batteries were quickly ruined by vibration. It requires no special spring mounting to absorb the shocks. **It is built to withstand them.**

For this battery was designed by us for use in Uncle Sam's Army Tanks—the roughest service in which storage batteries have ever been used.

THE
Exide
BATTERY
For Gas-Truck Starting and Lighting

Write us. We'll be glad to give you detailed information on this most sturdy battery.

THE ELECTRIC STORAGE BATTERY CO.

Oldest and largest manufacturers in the world of storage batteries for every purpose

1888 **PHILADELPHIA** 1920

BRANCHES IN 17 CITIES

Special Canadian Representatives: Chas. E. Goad Engineering Co., Ltd. Toronto and Montreal

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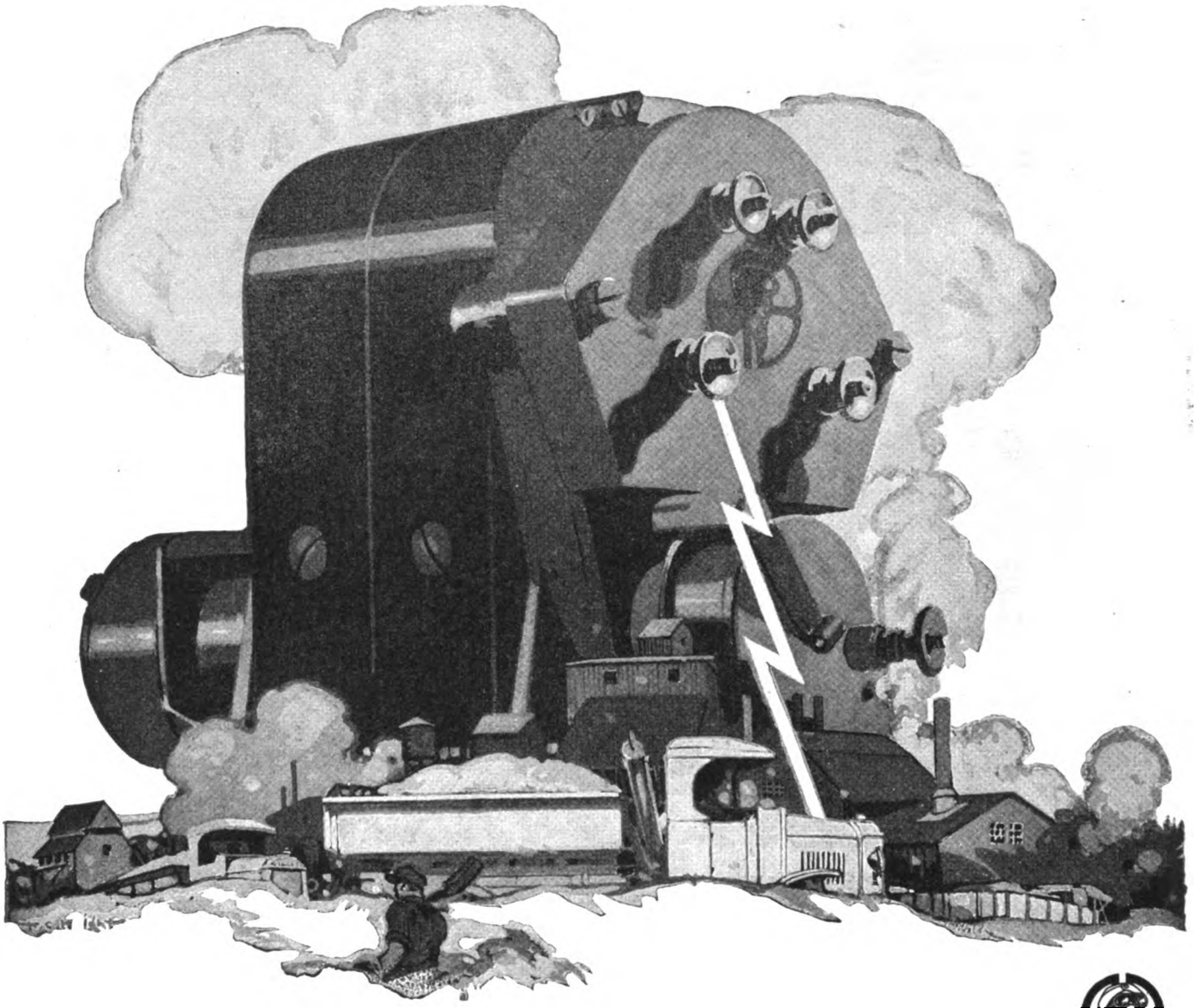

Put These Forces to Work

Trade Mark Reg. U. S. Pat. Off.

This is what Bosch High Tension Magneto Ignition adds to the truck you sell. Prestige built upon years of faithful service—performance known to four million Bosch owners—a service organization that is nation-wide—and a gigantic national advertising campaign that is ever increasing the sales value of the name Bosch.

Put these business-building, sales-making forces to work. Insist on Bosch Magneto Ignition. You can get it.

Be Satisfied **Specify Bosch**

400 Service Stations in 400 Centers

AMERICAN BOSCH MAGNETO CORPORATION

Main Office and Works: Springfield, Mass.
Branches: New York, Chicago, Detroit, San Francisco

BOSCH

Please mention "Power Wagon" when writing to advertisers.

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LEE TRAILERS

Make Motor Trucks Pay

If one of your customers asks your opinion about trailers, are you prepared to give him a good trailer talk?

No matter whether he will ever be a truck prospect again, you owe it to yourself to sell him a trailer if you can.

Why not be something more than a truck dealer? Be a transportation engineer and sell trailers incidentally.

Many truck dealers early realized the advantage of selling trailers. Their truck sales have increased.

A wise dealer sells trucks and trailers, preferably *LEE* trailers.

By doing so he makes two blades of grass grow where one grew before.

Send for Lee Line data sheets.

LEE LOADER & BODY CO.

Builders of Automotive Auxiliary Equipment

2337 So. La Salle St. Chicago

No Motor Truck or Motor Car is completely equipped that is not equipped with a Kellogg Engine-Driven Tire Pump

The Kellogg Pump Is a Vital Part of a Truck or Car

THE KELLOGG Engine-Driven TIRE PUMP is as essential a part of a motor truck or car as a horn, lights, or a brake.

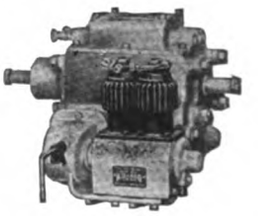
Efficiency in the transportation of merchandise and pleasure in motoring are dependent upon tire conditions.

Tires of any size can be inflated quickly with a KELLOGG power pump. An interrupted trip can be completed with little delay. And tires that are properly inflated are not so liable to puncture or rim-cut.

Without KELLOGG Engine-Driven TIRE PUMPS it would not be possible to operate motor trucks equipped with pneumatic tires.

Practically all of the leading motor trucks and cars manufactured today are equipped with KELLOGG Engine-Driven TIRE PUMPS as standard equipment.

CAUTION
Make sure your Motor Truck or Motor Car is equipped with a KELLOGG Engine-Driven TIRE PUMP



KELLOGG MFG. CO., Rochester, N. Y., U. S. A.

KELLOGG TIRE PUMPS

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Universal TRUCK WHEELS

Steel Cushioned Wheels

HUBLESS FULL FLOATING

Mead Cushioned Wheels

A Practical Wheel for Trucks, Tractors and Trailers

This Wheel Excels in Resiliency, Efficiency, Durability and Economy.

Simple in Construction

Reduces Gasoline Expense 25%

Mechanically Correct in Construction

Reduces General Upkeep Expense More than 50%

Vibrations and Hammer Thrusts from Road Contact are Absorbed in the Wheel

Protects the Engine and Chassis against Crystallization

The Wheel Designed with a Knowledge of Traffic Conditions

A Practical Wheel for Any Truck on Any Road with Any Load

This Wheel Meets the Growing Demand of Truck Users for Reducing Upkeep, and for Protection from Engine, Tire and Chassis Troubles.

A Wheel With Perfect Drawbar Pull

This Wheel Rides with the Resiliency of Pneumatic Tires and is not injured by Oils, Acids, Salts or Other Chemicals, because the Rubber is fully protected.

Initial Investment Compensated by Reduced Aftercost Plus Upkeep

PITTSBURGH TRUCK WHEEL CORPORATION
General Offices: 405 Fulton Building
PITTSBURGH, PA.

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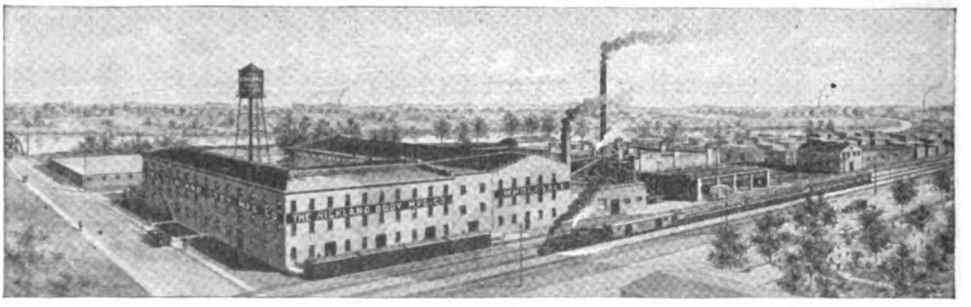
SMITH

PRESSED STEEL FRAMES

Made in the Largest
and best equipped frame
plant in the World

A. O. SMITH CORPORATION
MILWAUKEE
Detroit Office: 708 Ford Building

HIGHLAND STANDARD BODIES AND CABS



THE HIGHLAND BODY MFG., CO.
CINCINNATI OHIO

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FULLER
TRANSMISSIONS

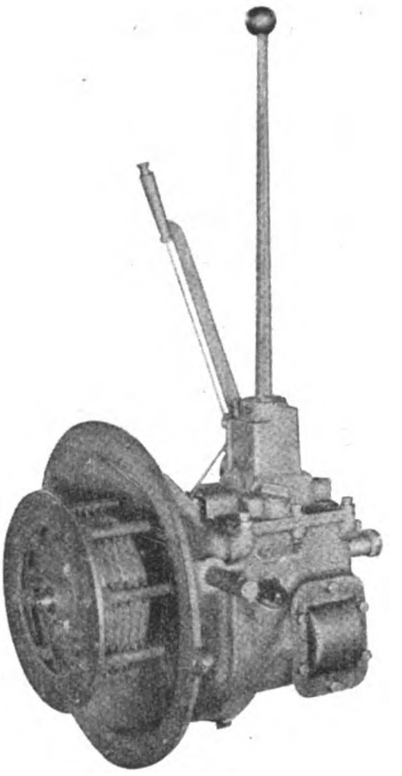
ANNOUNCING
NEW SPEED WAGON MODEL

To take care of the increasing demand for speed wagon or light truck transmissions we have brought out a Speed Wagon Special.

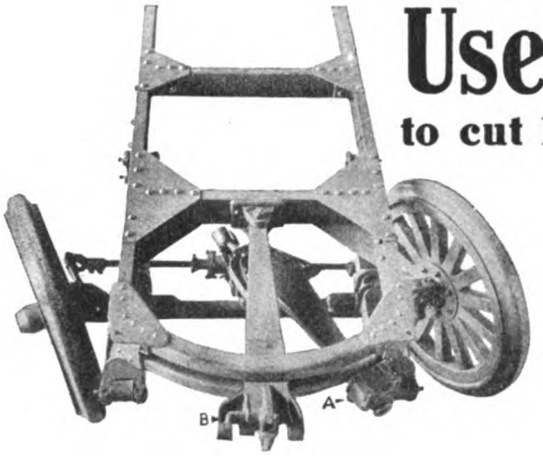
Special features are incorporated in this model including the extra low gear ratio of 4-1 on first speed.

On the left side of the transmission is a large S. A. E. pad for attaching tire pump and on the right side is a S. A. E. standard pad for mounting Power Take Off.

The Sturdiness of the Fuller Transmissions is built into this model.



FULLER & SONS MFG. CO.
Kalamazoo, Mich.
Detroit New York San Francisco



Use BYRON TRAILERS
to cut hauling costs and increase efficiency

BYRON TRAILERS offer advantages in easy steering, safe operation and efficient handling that cannot be found in any other trailer, because the mechanism that gives these advantages is exclusive, patented BYRON construction. BYRON users get maximum service at lowest cost, because BYRON TRAILERS are sturdily built for heavy duty. They are built in pole-trailer, semi-trailer and 4-wheel reversible types to meet every hauling requirement.

The BYRON selling-franchise is a splendid opportuntiy for live, energetic dealers. Some good territory is still open. Write for information.

This Steering Mechanism Is Exclusive BYRON Construction

The independent steering arm (A) connects the steering gear to drawhead (B) or to frame, as required, and permits the BYRON TRAILER to be steered by hand independent of drawbar, whether going forward or back. This is a great saver of time and effort in maneuvering the trailer, as it eliminates necessity of uncoupling trailer to direct the steering.

BYRON ENGINEERING WORKS, Incorporated
General Offices and Factory: Louisville, Kentucky

FACTORY REPRESENTATIVES:

Chicago, Ill.	St. Louis	Detroit	New Orleans	Jacksonville, Fla.
2959 Indiana Ave.	201 S. 10th Street	1685 Gratiot Ave.	1621 St. Charles Ave.	206 East Forsyth St.

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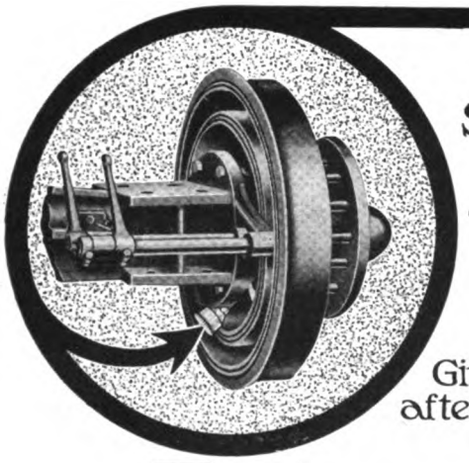

Standard Factory Equipment on

WISCONSIN AXLES

Giving dependable service day after day on over 6000 Wisconsin equipped motor trucks

Empress Grease and Oil Cups

Because of their never failing service and dependability, have for years predominated as standard equipment with the leading axle builders.

Drawn from rolled sheet metal this cup provides a light and extremely strong lubricator that withstands the racking conditions of motor truck service. The locking device secures the cap against loss even though used in places of excessive vibration. The post in the lock also prevents cross threading. A size for every requirement.

Write for Catalog R

Reg. U. S. Pat. Off.

Bowen Products Corporation

Manufacturing and Sales Divisions
Auburn Div., Auburn, N. Y. Winkley Div., Detroit, Mich.
Cleveland Div., Cleveland, Ohio.
Minneapolis Div., Minneapolis, Minn.

Branch Sales Offices
New York, 220 Broadway. Chicago, 1607 Otis Bldg.
San Francisco, Monadnock Bldg.
Boston, 903 Dexter Bldg. Cincinnati, 409 Lyric Bldg.

WISCONSIN CUSTOM BUILT AXLES

Satisfactory truck performance largely depends on the successful operation of its rear axle. Wisconsin Worm-Gear Rear Axles stand up under the hardest service.

Worm-gear drives don't wear *out*—they wear *in*. Of course, there's a reason.

Send for catalog.

Wisconsin Parts Co.

OSHKOSH WISCONSIN

To New Readers

Don't be disappointed if this particular issue should fail to supply the precise information you may require.

The economy of motor road transport is so varied in character that it is practically impossible to give more than a few examples of its manifestations in any one number of this journal.

Constant reading of the "Power Wagon" will abundantly reward those who are not in too great haste to learn everything connected with the important industry which it serves.

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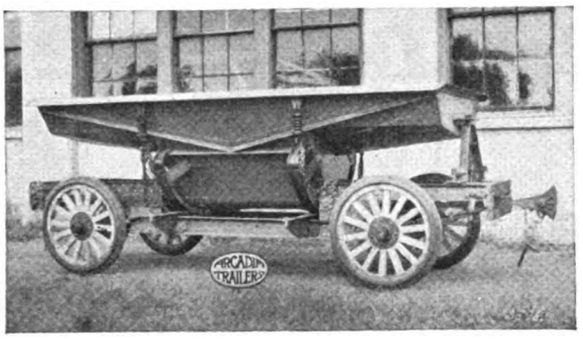

CLEAN YOUR CITY
WITH
ARCADIA TRAILERS
Write for Special Circulars
WE BUILD
A Trailer for Every Trade
One to Six Tons Capacity
Trailerize Your Trucks With Arcadia Trailers
Write for Trailer Information
Arcadia Trailer Corporation
23 Murray Street
Newark, New York State

WOOD DETROIT
HYDRAULIC HOISTS
AND
Steel Dumping Bodies
manufactured by
Wood Hydraulic Hoist & Body Company
Main Factory
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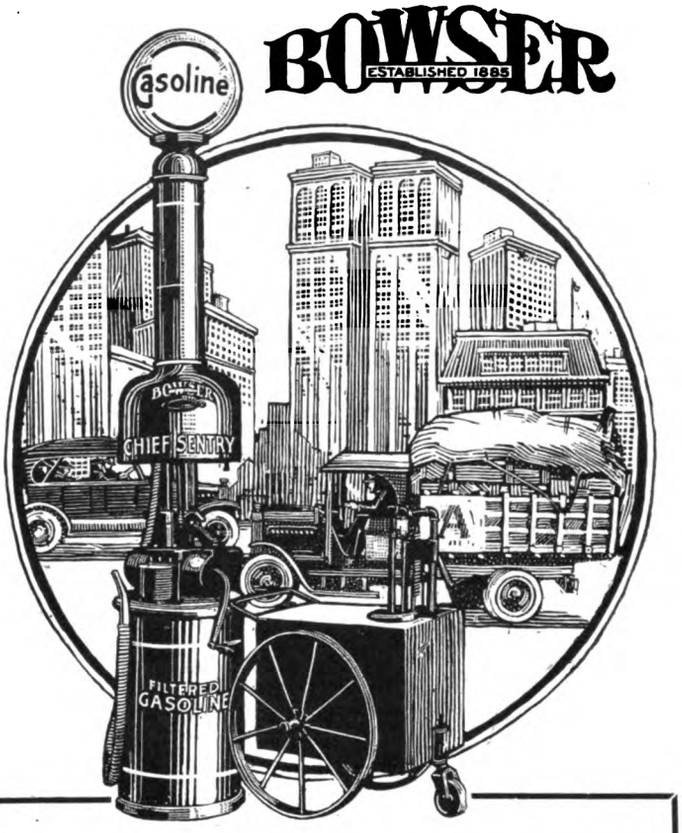

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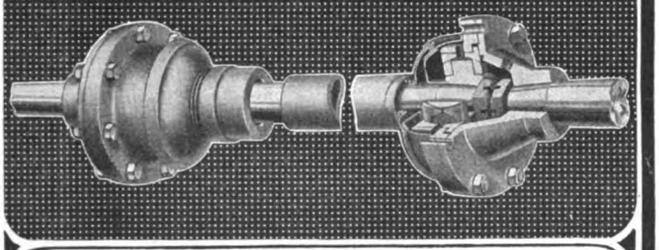

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FOR giving maximum mileage and the greatest measure of protection to loaded trucks, Fisk Truck Tires are unsurpassed.

They save money for you.

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TRUCK TIRES

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FOR EVERY MACHINE, *of* EVERY DEGREE *of* WEAR *there is* A SCIENTIFIC SINCLAIR OIL *to* SUIT *its* SPEED AND CONSERVE *its* POWER.

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Look at the truck market. The way trucks of the 1½-ton range are going, they will outsell all others combined. Velie Ton-and-a-half is built right, priced right—especially designed for the big market. Capable dealers are finding the Velie agency the most profitable asset. If your territory is not closed write for our liberal proposition. We can make immediate shipment.

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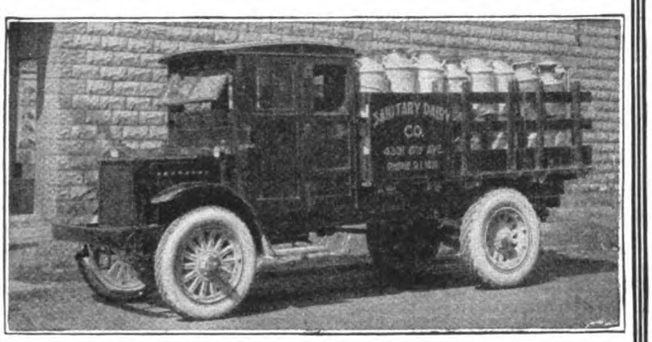
121 Velie Place **Moline, Illinois**



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AT LESS THAN PRE-WAR PRICES

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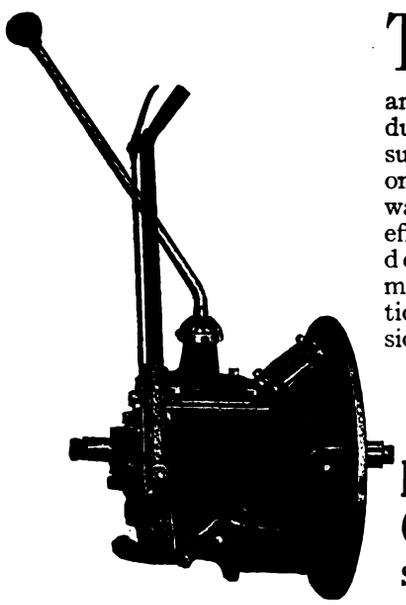

THE capacity of our factory has been greatly increased recently. We are now in very large production on transmissions suitable for trucks up to one-ton capacity or speed-wagons. After years of effort in developing our designs and production methods, we are in a position to deliver transmissions that are RIGHT.

We solicit your inquiries and consideration.

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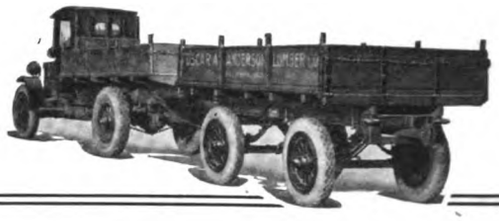

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Equipment for Every Truck

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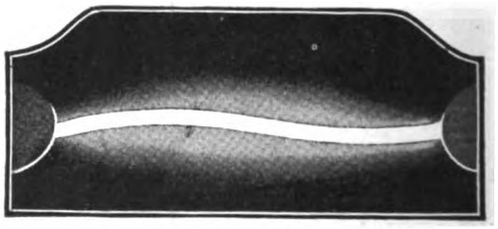

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Made of seamless drawn steel, tested and proved—perfect in every detail of construction. Send for booklet and detailed information.

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1½ and 2½ tons

The Victor worm drive motor truck is designed to stand rough usage and to give long and continuous service. That it is doing this is evidenced by repeat orders and its large number of satisfied users.

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Victor Truck Company
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Products of an Old Organization

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—One Result of Excessive Speed

THE most destructive agent of ruin to which a truck can be subjected is *vibration,* and it varies in direct proportion to the truck speed.

Pierce Governors reduce vibration to a minimum by making it impossible for the truck to exceed a reasonable speed.

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"WORLD'S LARGEST GOVERNOR BUILDERS"
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FLOATING POWER PLANT

As Good As The Name

Seven models

Five worm-drive

Two with Clark axles

1½ to 6 tons capacity

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MOTOR TRUCK CO.
Incorporated
Cincinnati Ohio

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Get after the Side-Dump Body Business and increase the output of Trucks.

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with an
AUTOMATIC SIDE-DUMP BODY

To increase the Sales of Trucks put on a Side Dump Body and Watch your Business Grow.

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Dumps a 3 yard load in a minute and a half.
Dumps all the load off without operating Truck.

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Write for attractive Dealers' Contract.

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"MERCHANTS' DISPATCH"

Now $1655

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Our present reduction in price is secured by the elimination of our profit, in the faith that the future will bring us a just reward for our efforts.

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Individualized Body Equipment for Every Business

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The Rubber City Clearing House Co.
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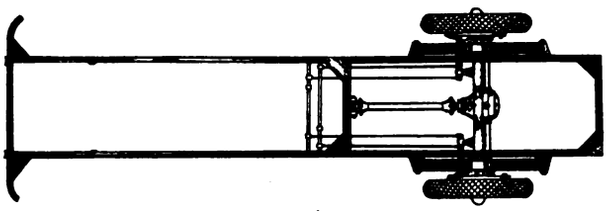
TRUCK UNITS

for Converting Passenger Cars into Trucks



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FRONT END UNITS
BODIES, CABS
WHEELS, RIMS
POWER PLANTS

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Luverne Motor Truck Co.
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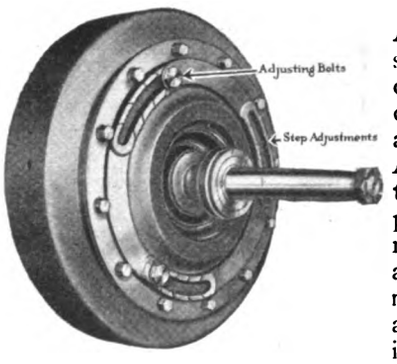
Winther Trucks

A complete line of quality trucks nationally known and appreciated.

Winther Motor Truck Co.
Manufacturers of Motor Trucks and Motor Cars
Kenosha, Wis.

"M & E" Dry Disc Clutch

(Pat. Pend.)



A powerfully constructed, smoothly operating disc clutch of the most advanced design. A sturdy unit that transmits the full power from the motor to the rear axle without the many disadvantages usually found in other clutches.

The "M & E" Dry Disc Clutch is characterized by simplicity, strength and adaptability to the motor car.

Made in 8", 10" and 12" sizes to fit exactly standard flywheels of all motors, also into all S. A. E. Standard "Unit Power Plant" and "Bell Housings."

Our engineers will gladly co-operate with you. Write to them.

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BALTIMORE CLEVELAND
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EFFICIENT and DURABLE
RADIATORS

The ACE of Radiators

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Send for samples and report on preliminary tests—then send us your B-P's and engine data and let us prescribe for your particular wants and give you our quotations.

We manufacture all sizes and shapes of cores for all purposes. We also build all styles of complete radiators.

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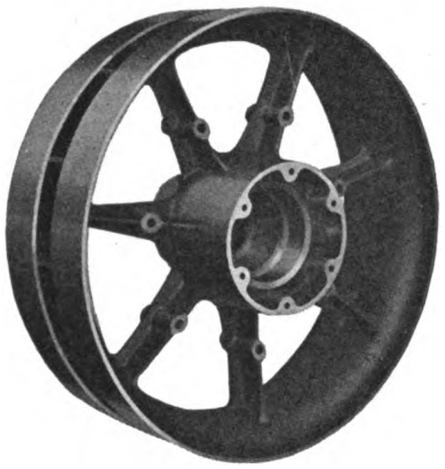

Hubs Cast Integral
Any Make of Axle
Any Make of Tire

Specify West Cast Steel Wheels On Your Next Truck Order

THE WEST STEEL CASTING CO.
Cleveland, Ohio

New York	Chicago	Detroit
1790 Broadway		205 Kresge Bldg.

"Watch the WEST STEEL WHEELS Go 'Round"

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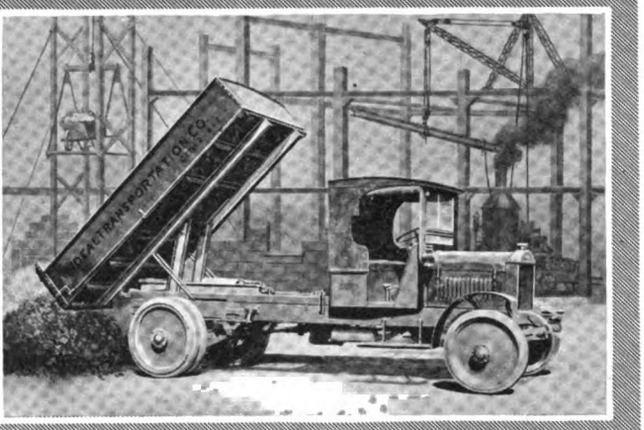

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The day after day positive performance, never-failing action, absolutely dependable ability of

HORIZONTAL HYDRAULIC DUMPING UNITS

to deposit any load exactly where it is wanted—to save time and labor—to increase motor truck efficiency—are *facts* that have won the approval of most of America's prominent motor truck manufacturers.

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A Composite of the Best Truck Design in America Today

Revised Prices:

MODEL A
1-1½ tons
Chassis Capacity
Including Weight
of Body
3500 Pounds
$2100

MODEL B
1½-2 tons
Chassis Capacity
Including Weight
of Body
4500 Pounds
$2300

MODEL D
2-2½ tons
Chassis Capacity
Including Weight
of Body
6000 Pounds
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MODEL C
2½-3 tons
Chassis Capacity
Including Weight
of Body
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MODEL F
3½-4 tons
Chassis Capacity
Including Weight
of Body
6000 Pounds
$3750

MODEL E
5-6 tons
Chassis Capacity
Including Weight
of Body
14,000 Pounds
$4600

Plus a Value at Its Price Unmatched by Any, Barring None!

—That, in brief, is the positive, proved and unchallenged status of DAY-ELDER worm-drive motor trucks; a quality standard that has no superior, and a value at each price that has no equal.

A new-comer in the field less than five years ago, today this line is among the dominant trucks in its class. It has forged to the front unaided by spectacular advertising, sheer merit and value having won for it its enviable reputation.

It claims many of the most representative dealers in the country, all of whom, almost invariably, are among the leaders in motor truck selling in their localities.

All of which has this significance for *you:* (1) That with DAY-ELDER trucks you are fortified with selling features possessed by no others to the same degree; (2) That you can meet competition from any standpoint, be it from the standpoints of design, quality of units or excellence of workmanship; and (3) That you can sell DAY-ELDER trucks to your greater profit than any other, because the demand is always the greatest for the truck that offers the most for the least.

DAY-ELDER MOTORS CORPORATION NEWARK, N. J., U. S. A.

DAY-ELDER
Worm-Drive Motor Trucks

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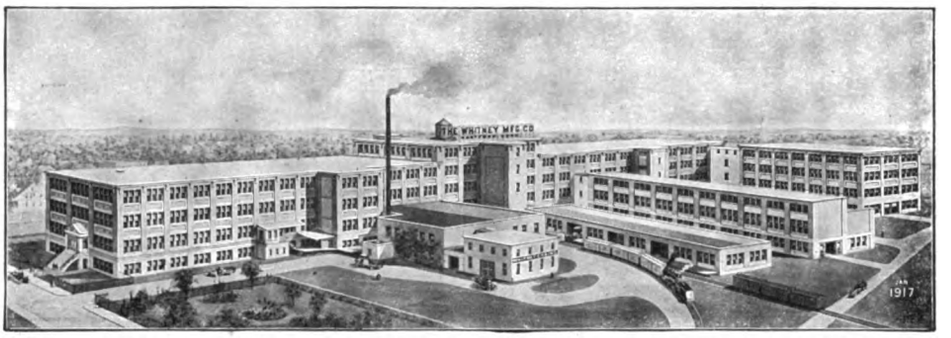
Roller Type



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Equip Your Motor Trucks and Tractors with "Whitney" Chains

Now that the motor truck is handling so much of the freight that was formerly cared for by the railroads, it must run on a schedule almost as exacting as that of the railroad train itself. This emphasizes the necessity of selecting a chain which can be relied on under all conditions of speed, road and weather.

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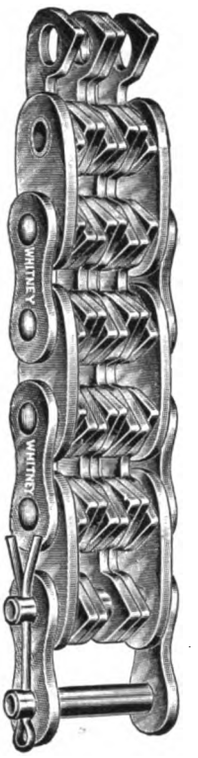
HARTFORD, CONN.

Chains **Keys and Cutters** **Hand Milling Machines**



Silent Type

An Explanation

UNCERTAINTY exists in some quarters regarding the connection between the **Simplex "Four-in-One" Body and Hand Hoist,** and the **Dailey "Four-in-One" Body and Hand Hoist.**

The so-called **"Dailey" "Four-in-One" Body and Hand Hoist** has always been manufactured by the **Simplex Mfg. Company,** at Conneautville, Pa., H. R. Dailey acting merely as selling agent for the Company and, in some of his advertising, applying his own name to our product.

To prevent further confusion, these bodies and hoists will in future be known **only as Simplex "Four-in-One" Bodies and Hoists.**

You will help avoid misunderstanding by specifying **"Simplex."**

THE SIMPLEX MANUFACTURING CO.
Conneautville, Pa.

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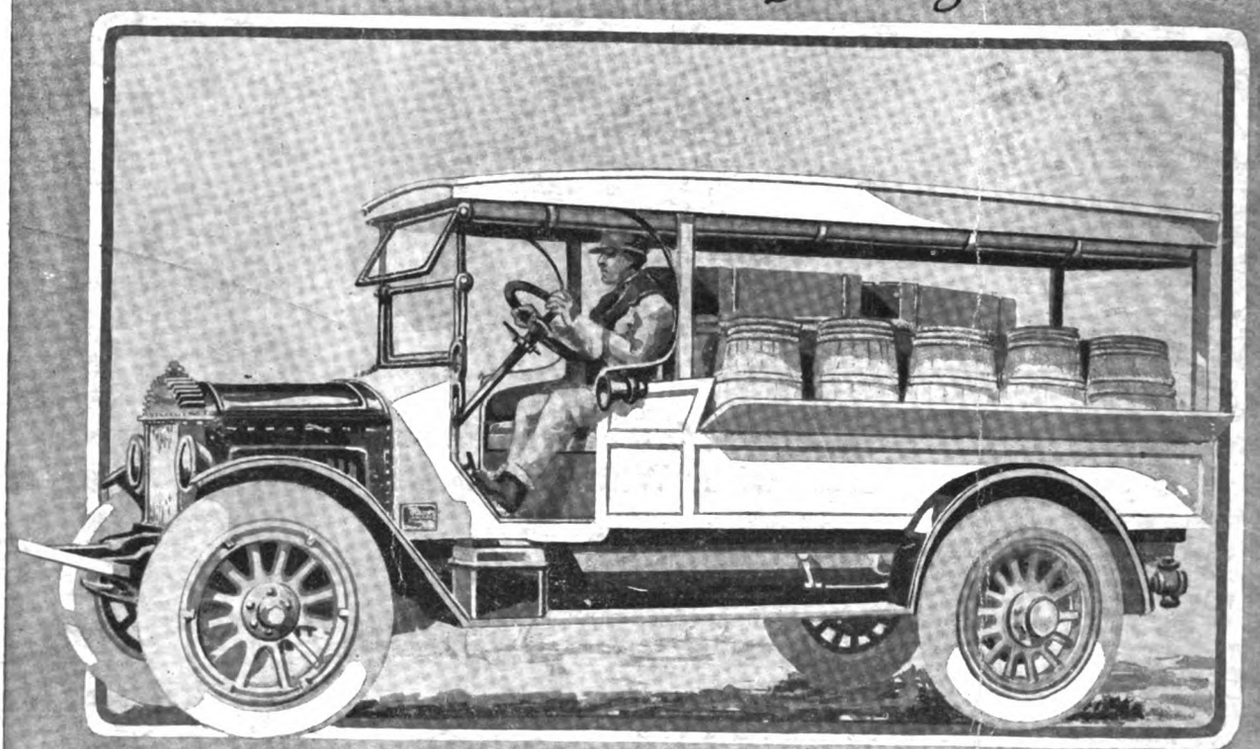
"Stewart Trucks have won-By costing less to run"



THE TRUCK SENSATION OF 1920

THE Stewart One-Ton Speed Truck has made good—100% good. Now owners know that what we said last January is so. It has quickly won its way to the front—the Stewart leader, and a profit-maker for owners. Business men and farmers favor it; buy it, work it hard, and praise it for its performance.

For this Stewart One-Ton Speed Truck is fast, sturdy and flexible; built light for speed and built strong for hard hauling; its first cost is low, and it keeps right on saving on tires, repairs, gasoline and oil. It is furnished with electric starter, electric lights, magneto ignition and five-inch cord tires. All the famous "less-cost-to-run" Stewart features are included—simple design, hundreds of needless parts eliminated, oilless bushings, heavy truck axles, cast tank radiator, front bumper, rebound spring plates, internal gear drive axle—all features that have helped to win the Stewart world-wide reputation for quality and economy. We still have some valuable territory open. Write for our dealership proposition.

STEWART MOTOR CORPORATION, BUFFALO, N.Y.

Made also in the following capacities: ¾, 1½, 2, 2½ and 3½ ton

Stewart MOTOR TRUCKS

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